



Informed Trading and False Signaling with Open Market Repurchases

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Informed Trading and False Signaling with Open Market Repurchases

Jesse M. Fried*

Abstract

Public companies in the United States and elsewhere increasingly use open market stock buybacks, rather than dividends, to distribute cash to shareholders. Academic commentators have emphasized the possible benefits of such repurchases for shareholders. However, little attention has been paid to their potential drawbacks. This Article explains that managers currently are able to use open market repurchases and misleading repurchase announcements to enrich themselves at public shareholders' expense. Managers, aware their stock is underpriced, frequently use repurchases to indirectly buy stock for themselves at a bargain price. Managers have also been able to boost stock prices by announcing repurchase programs they did not intend to execute, perhaps to unload their own shares at a high price. Such bargain repurchases and inflated-price sales systematically transfer significant amounts of value from one set of shareholders (public investors) to another (managers). Low-price buybacks are also likely to reduce aggregate shareholder value by distorting managers' payout and investment decisions, further reducing public shareholder returns. The Article concludes by proposing a new approach to regulating open market repurchases: requiring managers to disclose specific details of the firm's buy orders in advance. This pre-repurchase disclosure rule would undermine managers' ability to use repurchases for informed trading and false signaling, thereby reducing the resulting distortions and costs to shareholders. Moreover, it would achieve these objectives without eroding any of the potential benefits of repurchases.

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Introduction

Publicly traded U.S. firms distribute between \$300 and \$400 billion to their own shareholders annually.¹ Managers have two options for paying out this cash: dividends—pro rata distributions to shareholders—or share repurchases. Until the early 1980s, 80% to 90% of cash payouts took the form of dividends.² However, the use of share repurchases to distribute cash has since grown substantially in the United States, increasing from \$6.6 billion in 1980 to almost \$200 billion in 2000.³ In that year, more than 50% of the cash paid out by publicly traded firms was distributed through stock buybacks.⁴ The focus of this Article is open market repurchases, the most common form of buybacks, in which a corporation uses a broker to acquire its own stock in the public market over an extended period of time.⁵

¹ See Gustavo Grullon & Roni Michaely, *Dividends, Share Repurchases, and the Substitution Hypothesis*, 57 J. FIN. 1649, 1655 (2002) [hereinafter Grullon & Michaely, *Dividends*].

² *Id.*

³ *Id.*; Gustavo Grullon & David L. Ikenberry, *What Do We Know About Stock Repurchases?*, 13 J. APPLIED CORP. FIN. 31, 33 (2000). Although the volume of stock repurchases began declining after 2000, it began picking up again in 2004, with firms announcing over \$170 billion worth of repurchases in first eight months of the year, nearly double the corresponding figure for 2003. See Cynthia Schreiber, *Moving the Market: Tracking the Numbers/Street Sleuth: Buybacks Make A Grand Comeback*, WALL ST. J., Sept. 1, 2004, at C3.

⁴ See Gustavo Grullon & Roni Michaely, *The Information Content of Share Repurchase Programs*, 59 J. FIN. 651, 651 (2004) [hereinafter Grullon & Michaely, *The Information Content*].

⁵ See Grullon & Ikenberry, *supra* note 3, at 33-34. This Article is part of a larger project on firms' use of share repurchases to acquire stock from public shareholders. See Jesse M. Fried,

The explosive growth of repurchases has attracted considerable attention from financial economists.⁶ In general, these economists have assumed that managers

Insider Signaling and Insider Trading with Repurchase Tender Offers, 67 U. CHI. L. REV. 421, 453-65 (2000) (showing that managers' tendering, selling, and disclosure behavior is consistent with the use of repurchase tender offers for insider trading) [hereinafter Fried, *Insider Signaling*]; Jesse M. Fried, *Open Market Repurchases: Signaling or Managerial Opportunism?*, 2 THEORETICAL INQUIRIES L. 865, 879-81 (2001) (demonstrating that managers do not use open market repurchases to signal that the stock is underpriced) [hereinafter Fried, *Open Market*]. The Article does not discuss the repurchase of shares from select shareholders (including greenmail transactions). Nor does it address repurchases by closed-end investment funds, which raise different issues than repurchases by operating companies and are governed by a different set of regulations. See TAMAR FRANKEL & ANN TAYLOR SCHWING, 3 THE REGULATION OF MONEY MANAGERS: MUTUAL FUNDS AND ADVISERS § 26.03 (2d ed. 2001 & Supp. 2004) (discussing closed-end investment companies that sell and repurchase their securities).

⁶ See, e.g., SCOTT J. WEISBENNER, FEDERAL RESERVE BOARD, CORPORATE SHARE REPURCHASES IN THE 1990S: WHAT ROLE DO STOCK OPTIONS PLAY? 16 (Apr. 2000), available at <http://www.federalreserve.gov/pubs/feds/2000/200029/200029pap.pdf>; Michael J. Barclay & Clifford W. Smith, Jr., *Corporate Payout Policy: Cash Dividends Versus Open-Market Repurchases*, 22 J. FIN. ECON. 61 (1988); Eli Bartov, *Open-Market Stock Repurchases as Signals for Earnings and Risk Changes*, 14 J. ACCT. & ECON. 275 (1991); F.H. Buckley, *When the Medium is the Message: Corporate Buybacks as Signals*, 65 IND. L.J. 493, 539 (1990); Bhagwan Chowdhry & Vikram Nanda, *Repurchase Premia as a Reason for Dividends: A Dynamic Model of Corporate Payout Policies*, 7 REV. FIN. STUD. 321 (1994); George W. Fenn & Nellie Liang, *Corporate Payout Policy and Managerial Stock Incentives*, 60 J. FIN. ECON. 45 (2001); Grullon & Ikenberry, *supra* note 3; Grullon & Michaely, *supra* note 1; Grullon & Michaely, *supra* note 4; David Ikenberry et al., *Market Underreaction to Open Market Share Repurchases*, 39 J. FIN. ECON. 181 (1995) [hereinafter Ikenberry et al., *Market Underreaction*]; David Ikenberry et al., *Stock Repurchases in Canada: Performance and Strategic Trading*, 55 J. FIN. 2372 (2000); Murali Jagannathan et al., *Financial Flexibility and the Choice Between Dividends and Stock Repurchases*, 57 J. FIN. ECON. 355 (1999) [hereinafter Jagannathan et al., *Financial Flexibility*]; Murali Jagannathan & Clifford Stephens, *Motives for Multiple Open-Market Repurchase Programs*, 32 FIN. MGMT. 71 (2003); Kathleen M. Kahle, *When a Buyback Isn't a Buyback: Open Market Repurchases and Employee Options*, 63 J. FIN. ECON. 235 (2002); Elias Raad & H.K. Wu, *Insider*

use repurchases to benefit shareholders and have sought to identify the possible advantages of repurchases over dividends. These include repurchases' ability to: (1) distribute excess cash more tax-efficiently than dividends; (2) pay out transient cash flows more cost-effectively than dividends; (3) acquire shares for use in employee stock option plans; and (4) boost liquidity.⁷ However, little attention has been paid to the potential economic costs to public shareholders of managers using repurchases, rather than dividends, to distribute cash.

The Article shows that managers⁸ commonly use open market buybacks to enrich themselves at public investors' expense. The Article demonstrates that a repurchase has the same economic effects as the following two-part transaction: (1) non-selling shareholders buy shares directly from sellers at the repurchase price; and (2) the firm then issues a dividend. Thus, when a stock is trading below its actual value, managers can use a repurchase to buy shares for themselves and other

Trading Effects on Stock Returns Around Open-Market Repurchase Announcements: An Empirical Study, 18 J. FIN. RES. 45, 57 (1995); Clifford P. Stephens & Michael S. Weisbach, *Actual Share Repurchases in Open Market Repurchase Programs*, 53 J. FIN. 313 (1998); Nikos Vafeas, *Determinants of the Choice Between Alternative Share Repurchase Methods*, 12 J. ACCT. AUDITING & FIN. 101 (1997); Konan Chan et al., *Do Firms Knowingly Repurchase Stock For Good Reason?* (Aug. 2001) (working paper), available at http://www.ruf.rice.edu/%7Ejgspaper/W_Ikenberry_insiderv6.pdf; Christine Jolls, *Stock Repurchases and Incentive Compensation* (Mar. 1998) (Working Paper No. 6467), available at <http://www.nber.org/papers/w6467>.

⁷ The potential benefits of repurchases are described *infra* Part I.B.

non-selling shareholders at a bargain price. Managers of repurchasing firms own, on average, 15% to 20% of their firms' outstanding shares.⁹ As a result, managers repurchasing underpriced stock capture a significant fraction of the value transferred from sellers. Indeed, as the Article explains, there is considerable evidence that managers frequently use private information to conduct repurchase shares at a bargain price.¹⁰

Some economists have argued that managers seeking to serve public shareholders use repurchase announcements to signal that their stock is underpriced. According to this account, which I call “faithful signaling,” managers who believe that their stock is underpriced and who wish to credibly communicate this belief to shareholders do so by promising to repurchase stock and retain their own shares. Managers making this double commitment essentially promise to indirectly buy shares at the repurchase price – which would make them worse off if, in fact, the stock is currently overpriced.

⁸ In this Article, I use the term “managers” to refer to a firm’s high-level executives, directors, and (if there is one) the controlling shareholder that has appointed them.

⁹ See *infra* Part II.A.1

¹⁰ See *infra* Part II.A.2.

The Article presents empirical data indicating that managers do not actually engage in faithful signaling. Indeed, these same data suggest that managers engage in what I call “false signaling:” they announce repurchases they have no intention of conducting to inflate the stock price, enabling them to unload their own shares at a higher price. The Article also explains that bargain repurchases and false signaling are synergetic. Bargain repurchases make it easier for managers to boost the stock price with misleading repurchase announcements. And false signaling makes it easier for managers to profit from bargain repurchases.

The Article demonstrates that managers’ opportunistic use of repurchases and misleading repurchase announcements is likely to impose substantial costs on public shareholders. I estimate that managers make as much as several billion dollars annually from bargain repurchases alone. And I show that each dollar of these profits comes, directly or indirectly, at public shareholders’ expense.

The fact that managers use nonpublic information to conduct bargain repurchases should not be surprising. After all, managers frequently employ inside information to trade personally in their own firms’ shares. For example, managers often buy firm stock in advance of good news and sell before the release of bad

news. In earlier work, I estimated that managers use private information to make about \$5 billion annually, trading personally in their own firms' shares.¹¹

There is, however, a critical difference between managers' own trading and the use of bargain repurchases to indirectly acquire stock at a low price. Unlike managers' personal buying and selling, their use of repurchases to exploit inside information requires them to manipulate the timing and form of corporate cash payouts. Therefore, managers' ability to use repurchases to buy stock at a bargain price generates more costs than personal insider trading: it can directly distort payout policy, shrinking the corporate pie and further reducing public shareholders' returns.

The Article shows that bargain repurchases can lead to three types of payout distortions. First, managers able to use repurchases for informed trading may have an incentive to hoard cash – that is, delay paying out cash when an immediate distribution would benefit shareholders as a group. In particular, managers who believe that their firm's stock is likely to become underpriced may have an incentive to retain cash to preserve their ability to conduct bargain repurchases even though an immediate payout would maximize aggregate shareholder value. In this scenario, managers' ability to use repurchases to buy stock at a bargain price causes them to pay out too little.

Second, managers aware that their stock is underpriced may have an incentive to squander cash -- that is buy back stock with cash that should, from an ag-

¹¹ See Jesse M. Fried, *Reducing the Profitability of Corporate Insider Trading Through Pretrading Disclosure*, 71 S. CAL. L. REV. 303, 323 (1998) [hereinafter Fried, *Reducing the Profitability*].

gregate shareholder perspective, be invested in the firm. In this second scenario, managers' ability to conduct bargain repurchases causes them to pay out too much. In both the cash-hoarding and cash-squandering scenarios, managers' ability to engage in bargain repurchases leads them to make payout decisions that reduce aggregate shareholder value.

Third, managers' ability to use repurchases for informed trading may distort their choice of payout mechanism. As the Article explains, the transaction costs of a repurchase may sometimes exceed those of a dividend by a substantial amount, making dividends the most efficient form of payout in certain situations. But managers' incentive to profit from a low-price buyback may cause them to use a repurchase even in those situations where a dividend would be more efficient.¹²

I then consider two arguments that bargain repurchases might actually improve payout policy and increase aggregate shareholder value: (1) that such repurchases might mitigate managers' tendency to retain excess cash; and (2) that repurchase announcements' generally positive effect on stock prices suggests that bargain repurchases benefit shareholders. I explain why bargain repurchases are unlikely to benefit shareholders by causing managers to reducing excess cash retention, and show that bargain repurchases' effects on stockholders as a group

¹² Managers' use of bargain repurchases might give rise to other costs as well. For example, bargain repurchases, like personal insider trading, can be profitable only to the extent managers have private information. Thus bargain repurchases, like personal insider trading, might lead managers to make investment and disclosure decisions designed to increase information asymmetry rather than maximize aggregate shareholder value. Cf. Fried, *Reducing the Profitability*, *supra* note 11, at 306. However, the focus of this article is on those costs and distortions that are unique to bargain repurchases.

cannot be inferred from the stock market's reaction to repurchase announcement. Indeed, I demonstrate that repurchase announcements could boost the stock price even in a world where all repurchases reduce aggregate shareholder value.

After analyzing the costs bargain repurchases and misleading repurchase announcements impose on public shareholders, the Article proposes a new approach to regulating open market repurchases designed to reduce these costs. Under the proposed approach, managers would be required to disclose the exact details of their firm's repurchase orders before they are executed by brokers. Once announced, the orders could not be cancelled.

I show that pre-repurchase disclosure would reduce managers' ability to profit from bargain repurchases. Market participants would use disclosed repurchase orders to update their assessment of the stock's actual value, taking into account the firm's repurchase history, its financial condition, and managers' contemporaneous trading. To the extent the disclosure signals that the stock is likely to be underpriced, market participants will bid up the price before the repurchase order is executed, reducing managers' profits from each bargain repurchase. Managers with a history of bargain repurchases will face substantial adjustments even when they buy back stock for other reasons, forcing them to "give back" over time part of their profits from previous bargain repurchases.

As bargain repurchases become less profitable, managers will conduct fewer such repurchases. And, as the number of bargain repurchases declines, it will be harder for managers to inflate the stock price by announcing repurchase programs they have no intention of carrying out. Pre-repurchase disclosure can therefore

reduce the transfer of value from public shareholders to managers and increase aggregate shareholder value by improving corporate payout decisions.

Of course, not all buybacks are designed to enrich managers at public investors' expense. Many repurchases are likely undertaken for shareholder-serving reasons. For example, managers may conduct a buyback to acquire stock for employee option programs, or to distribute cash tax-efficiently. Importantly, pre-repurchase disclosure does not hinder the use of repurchases for such shareholder-benefiting purposes. Nor will it discourage managers from conducting shareholder-serving repurchases. Pre-repurchase disclosure can therefore reduce the

costs associated with the opportunistic use of buybacks and misleading repurchase announcements without undermining repurchases' potential benefits.¹³

Before proceeding, I would like to make explicit my normative framework. I consider managers' decisions to be "desirable" or "efficient" when they maximize what I call "aggregate shareholder value" — the present value of the cash flowing to the firm's current and future shareholders over time. Under this framework, an action that reduces the total amount of value available to shareholders is undesirable, even if it makes current shareholders better off.

It is also worth stating the assumptions about securities pricing underlying my analysis. When analyzing securities pricing, economists and legal academics have

¹³ This Article builds on my earlier work on open market repurchases. See Fried, Open Market, *supra* note 5. In that article, I systematically critique the "faithful signaling" explanation for repurchases advanced by some economists and sketch out the argument, which I develop more fully here, that managers use open market buybacks for informed trading and misleading repurchase announcements to boost the stock price before selling their shares. Unlike this Article, however, Open Market does not estimate the value diverted to managers through bargain repurchases, identify and systematically analyze the payout distortions resulting from the use of buybacks for informed trading, or offer a proposal designed to reduce managers' ability to engage in bargain repurchases and inflated-price sales. In a contemporaneously written article, Bill Bratton also expresses a skeptical view about the desirability of open market repurchases. See William W. Bratton, *The New Dividend Puzzle*, 93 GEO. L.J. (forthcoming 2005). Bratton points out that repurchases, by reducing the number of outstanding shares, can be used to mask the cost of option compensation and distort reported earnings per share. In light of these potential problems, he urges boards to carefully consider whether, especially after the recent dividend tax cut, repurchases make shareholders better off. However, Bratton does not systematically analyze the economic costs of bargain repurchases and false signaling or propose a regulatory solution to reduce these costs, as I seek to do in this Article.

often assumed that the market price is the best possible estimate, based on public information, of a stock's value. As a result, investors' demand curve for the stock is essentially horizontal -- there is infinite demand for the stock at or below the market price, and no demand above.¹⁴

However, there is considerable evidence that investors hold different views about the value of publicly traded stock. In the presence of such heterogeneous beliefs, the demand curve for stock slopes downward. The highest-valuing investor would be willing to hold the stock even if it were to trade at a price much higher than the current market price. At lower prices, more and more investors would be willing to own the shares. If the demand curve for a given stock slopes downward, the stock will trade at a price reflecting the subjective valuation of the firm's lowest-valuing (or "marginal") shareholder.¹⁵

When the demand curve for stock slopes downward, managers can boost the stock price not only by announcing a repurchase program but also by repurchasing shares from low-valuing shareholders. Thus, managers wishing to unload their own shares at a higher price may have an incentive to use repurchases to exert upward pressure on the price.¹⁶ The use of repurchases to exert price pressure would create payout distortions in addition to those I identify in this Article. For example, managers seeking to boost the stock price before selling shares might re-

¹⁴ See Fried, *Insider Signaling*, *supra* note 5, at 434.

¹⁵ See Fried, *Insider Signaling*, *supra* note 5, at 434-35.

¹⁶ *Id.*, at 435-436.

purchase shares with funds that can generate more value invested in the firm even when the stock is overpriced.

Because I wish to focus here on managers' use of repurchases for informed trading and false signaling -- forms of opportunism which can arise whether stock demand curves are horizontal or downward sloping -- will, generally assume, as is common in most of the literature, that the market price is the best possible estimate, based on public information, of a stock's value and that the demand curve is horizontal. My aim is to show that, even under such market conditions, managers' use of repurchases can transfer value from public shareholders and lead to payout distortions that reduce aggregate shareholder value.¹⁷

The remainder of the Article proceeds as follows. Part I describes the importance of corporate payout policy and the growing use of open market repurchases to distribute cash. It then identifies and explains the potential advantages of these stock buybacks to shareholders and describes how they are currently regulated.

Part II shows that managers are currently able to misuse open market repurchases for informed trading thereby enriching themselves at the expense of public shareholders. It begins by demonstrating that a repurchase has the same economic effects as a two-part transaction in which non-selling shareholders buy stock from sellers at the repurchase price, and the firm then issues a dividend. Thus, managers aware the stock is underpriced can use a repurchase to indirectly buy bargain-

¹⁷ In future work, I plan to analyze the additional payout distortions that are likely to arise from managers' use of repurchases in markets either where stock demand curves are downward sloping or investors are myopic.

price shares from selling shareholders. It then presents evidence that managers frequently conduct such bargain repurchases.

Part II also considers managers' opportunistic use of repurchase announcements. It shows that the available data indicate that managers do not, as many economists have argued, use repurchase announcements to credibly signal that the stock is underpriced. Rather, those data are consistent with managers using misleading repurchase announcements to boost the stock price before selling their own shares. Part II concludes by explaining how each form of opportunism -- bargain repurchases and false signaling -- facilitates the other.

Part III provides a tentative estimate of managers' profits from bargain repurchases: approximately several billion dollars annually. It then explains how these profits come, directly or indirectly, at public investors' expense.

In Part IV, I show that the cost to public investors of managers' opportunistic use of stock buybacks is not limited to managers' profits. Bargain buybacks distort firms' payout and decisions, reducing aggregate shareholder value and further diminishing public investors' returns. Part IV also explains why bargain repurchases are unlikely to mitigate managers' tendency to retain too much cash and why the effect of repurchases on public shareholders cannot accurately be gauged by the market's reaction to repurchase announcements.

Part V proposes the pre-repurchase disclosure approach to regulating buybacks. It shows that pre-purchase disclosure would reduce managers' bargain repurchase profits, their incentive to conduct bargain repurchases, and their ability to benefit from false signaling. Pre-repurchase disclosure would thereby reduce the amount of value diverted from public shareholders to managers as well as im-

prove corporate payout policy, further increasing public shareholders' returns. Part V also considers the potential costs of pre-repurchase disclosure and explains why they are likely to be minimal. A brief conclusion follows.

I. Repurchases: Use, Benefits, and Regulation

A. Corporate Payout Policy and the Increasing Use of Repurchases

Publicly traded U.S. firms annually generate hundreds of billions of dollars in earnings.¹⁸ Each year, managers must decide how much of their firms' retained earnings should be distributed to shareholders. In 2000, U.S. managers distributed over \$350 billion to their own shareholders through dividends and repurchases.¹⁹

In a world of perfect capital markets, payout decisions might not be particularly important. Corporations could obtain financing for any project with a positive net present value. Thus, a firm's ability to invest in desirable projects would not depend on having cash on hand. If the firm required additional funding, it could simply tap the equity or debt markets for the necessary capital. Similarly, shareholders' ability to invest in projects outside the firm would not depend on their personal cash holdings. They, too, could easily raise additional financing for any profitable venture.

¹⁸ See Grullon & Michaely, *Dividends*, *supra* note 1, at 1655.

¹⁹ *Id.*

However, capital markets are not perfect. Neither firms nor shareholders always can obtain outside financing for projects with positive net present value. As a result, payout decisions affect firms' ability to fund existing and new projects as well as shareholders' ability to invest in ventures outside of their firms. Payout decisions also affect a firm's debt/equity ratio (or "leverage"), which might influence firm value. Thus, payout policy can have substantial economic effects.

From an aggregate shareholder perspective, the optimal payout policy is one that maximizes the present value of the cash flowing to the firm's current and future shareholders over time. A firm should distribute one dollar to shareholders if and only if, on the margin, investing that dollar outside the firm would yield higher returns than investing it in the firm. When the dollar would generate a return of 15% in the firm and 10% outside, the firm should retain the cash. If, on the other hand, that dollar would generate a return of 5% in the firm and 10% outside, the firm should pay it out.

Managers must decide not only how much cash to distribute to shareholders but also the manner in which the cash should be paid out—through dividends, share repurchases, or both. Given the widespread use of both dividends and repurchases to distribute cash, it is unlikely that either form of payout is always better for shareholders. From an optimal payout perspective, managers should choose not only the payout amount that is best for shareholders but also the payout form that maximizes aggregate shareholder value.

During the last several decades, many firms began using repurchases as their exclusive means of distributing cash.²⁰ In addition, many traditionally dividend-paying firms began also to repurchase shares.²¹ As a result, the use of share repurchases to distribute cash has increased substantially in both relative and absolute terms. While in 1980 there were only \$13 of share repurchases for every \$100 of dividends, by 2000 there were \$113.²² During the 1980s and 1990s, the annual volume of share repurchases increased from \$6.6 billion to almost \$200 billion.²³ Most shares are repurchased by firms that also issue dividends.

Share repurchases can take the form of either an open market repurchase (OMR) or a repurchase tender offer (RTO). In an OMR, the firm buys its own stock on the market through a broker. In an RTO, the firm offers to buy back its own stock directly from shareholders, usually at a premium over the market price.²⁴ OMRs, the focus of this Article, are used to acquire 90% to 95% of the shares repurchased annually.²⁵

²⁰ See *id.* at 1662.

²¹ *Id.* at 1659-1660; see also Eugene F. Fama & Kenneth R. French, *Disappearing Dividends: Changing Firm Characteristics or Lower Propensity to Pay?*, 60 J. FIN. ECON. 3, 19 (2001) (finding a lower propensity to pay dividends among public firms).

²² Grullon & Michaely, *Dividends*, *supra* note 1, at 1655.

²³ *Id.*

²⁴ See Fried, *Insider Signaling*, *supra* note 5, at 428.

²⁵ Grullon & Ikenberry, *supra* note 3, at 33-34 (reporting that between 1980 and 1999, open-market programs comprised about 92% of the total share repurchase announcements and 91% of the total value of all repurchase announcements).

As I describe in more detail below, firms announcing board authorization of an OMR program are not required to indicate the number or amount of shares they intend to repurchase.²⁶ Nor are they obligated to repurchase a single share. Those firms announcing OMR programs and disclosing the amount of shares targeted have indicated they may acquire, on average, 7% of outstanding shares.²⁷ Not all announcing firms actually repurchase the targeted amount. Firms that actually buy back shares following OMR announcements tend to acquire shares over periods ranging from several months to several years.²⁸ Companies announcing OMRs and disclosing the target usually buy back 70% to 80% of the targeted number of shares during the repurchase period.²⁹ Until recently, firms were not required to disclose the number of shares actually repurchased – and generally did not volunteer this information.³⁰ These figures are thus merely estimates.

²⁶ See *infra* Part I.C.3

²⁷ See Ikenberry et al., *Market Underreaction*, *supra* note 6, at 185 (reporting that the average percentage of outstanding shares sought in all of the open market repurchases announced between January 1980 and December 1990 by firms listed on the American Stock Exchange (ASE), New York Stock Exchange (NYSE), and the National Association of Securities Dealers Automated Quotation System (NASDAQ) was 6.6%).

²⁸ See Stephens & Weisbach, *supra* note 6. In contrast, RTOs, which on average target twice as many shares as open market repurchases, are usually completed within one month. See Fried, *Insider Signaling*, *supra* note 5, at 428.

²⁹ See Stephens & Weisbach, *supra* note 6, at 314. Estimated program completion rates ranged from 53% to 72% for the period 1985-1996. See Jagannathan et al., *Financial Flexibility*, *supra* note 6, at 357.

³⁰ Part I.C.3 *infra* discusses the current disclosure requirements for open market repurchases.

B. Potential Benefits of Repurchases

Optimal payout policy requires managers to choose not only the amount of cash distributions that maximizes aggregate shareholder value but also the most beneficial form of payout: dividend or stock buyback. Many academic commentators have viewed the increased use of open market repurchases as desirable because they offer a number of possible advantages over dividends.³¹ This Section considers four potential benefits of repurchases: their ability to (1) pay out excess cash more tax-efficiently than dividends; (2) distribute transient cash flows more cost-effectively; (3) provide shares needed for employee stock option plans; and (4) increase liquidity.

Before proceeding to describe each possible benefit, I wish to emphasize two points. First, I make no claim about the magnitude of any of these benefits. Second, even if these benefits make repurchases superior to dividends in certain cases, they are unlikely to make repurchases the most efficient form of payout in every case. Indeed, the continued widespread use of dividends—often by the same firms that

³¹ See Douglas O. Cook et al., *On the Timing and Execution of Open Market Repurchases*, 17 REV. FIN. STUD. 463 (2004) (describing the liquidity-enhancing benefits of repurchases) [hereinafter Cook et al., *On the Timing*]; Grullon & Michaely, *supra* note 1, at 1650 (discussing the tax benefits of repurchases); See Jagannathan et al., *Financial Flexibility*, *supra* note 6 (detailing the use of open market repurchases to distribute transient cash flows); Kahle, *supra* note 6 (considering the use of repurchases to acquire shares for employee stock option programs).

repurchase shares—suggests that dividends are often a more efficient form of payout than repurchases.³² My purpose here is simply to describe the potential benefits attributed by others to repurchases.

1. Tax-Favored Distribution of Excess Cash

From shareholders' perspective, managers should distribute "excess cash"—cash that can earn higher returns for shareholders outside the firm—in the most tax-efficient manner. Historically, repurchases have been a much more tax-efficient means of distributing excess cash than dividends.³³ The tax advantages of repurchases have diminished, however, because of the 2003 dividend tax cuts. Indeed, as I explain below, in certain situations dividends may now be more tax-efficient.

Unless a shareholder is exempt from tax, she generally pays tax when she receives a dividend or sells her shares for a profit. Historically, profits on long term capital gains have been taxed far less heavily than dividends. Before the 2003 dividend tax cut, for example, dividend income was treated as ordinary income, potentially subject to the highest marginal federal tax rate of 35%. In contrast, the

³² In Part IV, I explain that managers' ability to use buybacks for informed trading may cause them to use repurchases even when dividends would better serve shareholders, thereby reducing aggregate shareholder value.

³³ See, e.g., Bratton, *supra* note 13, at 12.

highest marginal federal rate for long-term capital gains was 20%.³⁴ However, the 2003 tax cuts lowered the highest marginal rate on both qualifying dividends and long-term capital gains to 15%.³⁵ In fact, qualifying dividends are now taxed less heavily than short-term gains, which continue to be taxed at ordinary income rates.

In some cases, however, repurchases may still be at least slightly more tax-efficient for shareholders than dividends. First, repurchases tend to shift the tax burden to shareholders with lower marginal rates. When a firm issues a dividend, all taxable shareholders are taxed on their pro rata share of the dividend. In contrast, when the firm repurchases shares, only those shareholders who choose to sell their shares are taxed. To the extent higher-bracket shareholders avoid selling their shares, leaving the selling to lower-bracket (or tax-exempt) shareholders, the aggregate tax burden on shareholders is reduced.³⁶

Second, repurchases allow tax-free recovery of “basis.” A shareholder receiving a dividend is taxed on the entire amount. By contrast, a selling shareholder is not taxed on the full amount of the sale proceeds but only on the capital gains (the

³⁴ Jobs and Growth Tax Relief Reconciliation Act of 2003, Pub. L. No. 108-27, 117 Stat. 752 (2003) (codified as amended in scattered sections of 26 U.S.C., 42 U.S.C.)

³⁵ See I.R.C. §§ 1(h)(1)(C), 1(h)(11), 55(b)(3)(c) (West Supp. 2004). Certain dividends do not qualify for the 15% tax rate which lapses on January 1, 2009 unless it is extended. *Id.*

³⁶ In principle, the IRS could treat non-selling shareholders as constructively receiving a taxable “stock” dividend (even though they do not receive any shares) because their percentage interest in the company increases. See I.R.C. §§ 302(b)(2), 305(b). But, to my knowledge, the IRS has never taken such a position with respect to shareholders of public companies.

difference between the sale proceeds and the shareholder's cost basis in the stock). For example, a shareholder who sells \$100 worth of shares that were purchased for \$60 pays tax on only \$40. And if the shares' basis exceeds the sale price—that is, the shareholder sells at a loss—the shareholder can use the loss to offset other capital gains and, to a limited extent, ordinary income. The tax-free recovery of basis, together with the bracket-shifting effect described earlier, can make repurchases more tax-efficient than dividends, even when the tax rates on dividend income and capital gains are the same.

Nevertheless, the potential tax efficiency of repurchases should not be overstated. Many institutional shareholders, such as state and corporate pension funds, are tax exempt. Individual investors often own stock (directly, in their own brokerage accounts, or indirectly, through mutual funds) in tax-favored accounts that either exempt dividend and capital gains income from tax or subject both forms of income to the same tax rate.³⁷ The substantial presence of tax-exempt and tax-indifferent investors may well explain why managers do not appear to heavily weigh the shareholder-level tax implications of their payout policies.³⁸ Thus,

³⁷ For example, over 40 million individuals hold investments totaling almost \$2 trillion dollars in 401(k) plans. See Sarah Holden & Jack VanDerhei, *401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2003*, 10 PERSPECTIVE 1 (Aug. 2004), available at <http://www.ici.org/stats/res/per10-02.pdf>.

³⁸ Survey data suggest that, for a majority of CFOs, tax considerations do not dictate the choice between dividends and repurchases. See Alon Brav et al., *Payout Policy in the 21st Century* (June 14, 2004) (unpublished manuscript), available at <http://ssrn.com/abstract=571046>.

while repurchases may still offer tax advantages over dividends in certain situations, the magnitude of these benefits is likely to be quite small.

2. Efficient Distribution of Transient Cash Flows

Apart from repurchases' possible tax benefits, buybacks may provide a more efficient method of distributing transient (non-recurring) excess cash flows -- especially relatively small amounts. Managers seeking to distribute transient cash flows would not wish to initiate regular dividends or increase the firm's current dividend. Such steps might inadvertently signal a commitment by managers to continue paying dividends (or larger dividends) in the future.³⁹

Managers could avoid sending such a commitment signal by either repurchasing shares or by issuing a so-called "special" dividend. By designating the dividend as "special," managers make clear that they do not intend to regularly pay such a dividend. Special dividends were common in the past, but are less widely used today.⁴⁰

However, a stock repurchase might involve lower transaction costs than a special dividend -- especially for small payouts. When a firm distributes cash through

³⁹ See, e.g., Jagannathan et al., *Financial Flexibility*, *supra* note 6, at 356

⁴⁰ See Harry DeAngelo et al., Special Dividends and the Evolution of Dividend Signaling 313-17 (Dec. 15, 1999) (unpublished manuscript), available at <http://ssrn.com/abstract=198448>; see also Bratton, *supra* note 13, at 42-43.

a repurchase, both the firm and selling shareholders incur brokerage fees. If the trade is mediated through a market maker, the parties also bear the cost of the bid-ask spread. The transaction costs of a repurchase thus increase with the amount repurchased. In contrast, the transaction costs of a dividend are fixed. When a firm issues a dividend, it must compute the dividend for each shareholder and mail out checks. These expenses are largely independent of the total amount distributed. The cost of mailing out a \$10,000 dividend to shareholders is likely to be the same as the cost of mailing out a \$10,000,000 dividend. If the amount distributed is sufficiently large, a dividend is likely to involve lower per-dollar transaction costs than a repurchase. However, if the payout is sufficiently small, a repurchase will be a more cost-effective method of distributing transient excess cash flows than a dividend.

3. Supplying Employee Stock Option Plans

Another advantage of repurchases over dividends is that they enable firms to provide shares for increasingly popular employee stock option programs. A large portion of executive compensation comes in the form of stock options.⁴¹ Options are also widely used to compensate and motivate lower-ranking employees. Under these plans, employees are given options to buy the firm's stock at a certain strike price (usually equal to the grant-date market price). The options cannot be exer-

⁴¹ See LUCIAN BEBCHUK & JESSE FRIED, PAY WITHOUT PERFORMANCE: THE UNFULFILLED PROMISE OF EXECUTIVE COMPENSATION 137 (2004).

cised until the end of their vesting period. Upon exercise, the firm sells shares to the employee for the strike price, and the employee then typically sells those shares in the market.⁴² Employee stock option programs thus require a steady supply of shares. Repurchases can provide those shares; dividends cannot.⁴³

It is far from clear, however, that repurchases are always necessary to support shareholder-serving employee stock option programs. A board could simply print and issue new shares for its stock option program. Of course, the corporate charter might limit the number of shares the board is permitted to issue. But in such a case the board could always seek shareholder approval to amend the charter and raise that limit to provide additional shares for employees. Shareholders would presumably approve such an increase if the employee stock option program served their interests. Nevertheless, if for some reason managers could not operate shareholder-serving employee option plans without repurchasing shares, buybacks would provide this additional benefit.

⁴² For a general overview of stock option compensation, see Kevin J. Murphy, *Executive Compensation*, in 3B HANDBOOK OF LABOR ECONOMICS 2485, 2507-10 (Orley Ashenfelter & David Card eds., 1999).

⁴³ Indeed, there is some evidence of a connection between repurchases and the use of employee stock options. In particular, the number of shares repurchased by firms is correlated with the number of exercisable employee options. See Kahle, *supra* note 6, at 239. For an argument that repurchases can obscure the costs of option compensation, see Bratton, *supra* note 13, at 39.

4. Liquidity Support

Some economists have argued that repurchases can benefit shareholders by improving liquidity, that is, reducing the costs incurred by shareholders in buying and selling shares.⁴⁴ Investors often do not trade directly with each other. Rather, they trade with market makers,⁴⁵ who continuously offer to buy certain securities at the “bid price” and to sell at the higher “ask price”. The bid-ask spread compensates the market maker for the various costs associated with market making and provides a profit. The lower the bid-ask spread, the cheaper it is for shareholders to trade the stock, and the more “liquid” the stock is said to be.

Repurchases might narrow the bid-ask spread and increase the stock’s liquidity by reducing market makers’ costs. For example, market makers incur “inventory costs,” the costs associated with holding shares for sale to buyers. The higher their inventory costs, the larger the bid-ask spread must be, everything else being equal. The increase in trading volume caused by a repurchase might make it easier for the market maker to reverse a position in the stock, reducing her holding costs—and thereby enabling her to narrow the bid-ask spread.⁴⁶ In fact, there is

⁴⁴ See, e.g., Cook et al., *On the Timing*, *supra* note 31.

⁴⁵ I use the term “market makers” to refer generally to all parties that intermediate between buyers and sellers.

⁴⁶ See Ajai Singh et al., *Liquidity Changes Associated with Open Market Repurchases*, 23 FIN. MGMT. 47, 50-51 (1994).

evidence that (non-bargain) repurchases can reduce the bid-ask spread.⁴⁷ The lower bid-ask spread, in turn, increases shareholders' net returns. Accordingly, another advantage of repurchases over dividends is that they can, in certain situations, increase liquidity.

C. Regulation

Having explained the possible advantages of repurchases over dividends, I now describe the three most important elements of the current regulatory framework governing repurchases in the United States:⁴⁸ (1) stock exchange and securities law disclosure requirements; (2) the anti-manipulation provisions of the securities laws, including the Rule 10b-18 safe harbor; and (3) the insider trading prohibition under Rule 10b-5. As we will see, these rules leave managers with considerable opportunity to use bargain repurchases and misleading repurchase announcements to enrich themselves at the expense of public shareholders.

⁴⁷ See Cook et al., *supra* note 31, at 485-86 (finding, among a sample of firms, that bid-ask spreads narrowed when firms repurchased stock). I discuss this study in more detail in Part III.B.2 *infra*.

⁴⁸ For a survey of regulations elsewhere, see Jaemin Kim et al., Survey on Open Market Repurchase Regulations: Cross Country Examination of the Ten Largest Stock Markets (Feb. 1, 2004) (working paper), available at <http://ssrn.com/abstract=496003>.

1. Disclosure Requirements

Firms conducting OMRs are subject to disclosure requirements imposed by stock exchanges and the Securities and Exchange Commission (SEC). All major U.S. stock exchanges require a listed firm to announce the establishment by its board of an open market buyback program.⁴⁹ However, neither the stock exchanges nor the SEC requires an announcing firm to indicate the number (or dollar amount) of shares to be repurchased. Nor must a firm indicate the expiration date of its buyback program. As a result, many announcing firms fail to disclose either the targeted amount or the expiration date. Some firms disclose neither.⁵⁰ Even if the firm does volunteer a repurchase target, it will make clear that the number of shares actually repurchased will depend on market conditions.⁵¹ Consequently, firms announcing repurchases are not obligated to buy back any stock. In fact, many do not repurchase a single share.⁵²

For many years, neither the stock exchanges nor the SEC required firms to indicate how many shares they had actually repurchased. However, in 2003 the SEC promulgated regulations requiring after-the-fact disclosure of firms' buyback ac-

⁴⁹ See Matthew J. Gardella, *Stock Buybacks: Legal Issues Under the Federal Securities Laws and Other Practical Considerations*, 13 INSIGHTS 2 (1999).

⁵⁰ See Jagannathan et al., *Financial Flexibility*, *supra* note 6, at 358-60; Stephens & Weisbach, *supra* note 6, at 317.

⁵¹ Cf. David L. Ikenberry & Theo Vermaelen, *The Option to Repurchase Stock*, 25 FIN. MGMNT. 9 (1996) (conceiving a repurchase announcement as the creation of an option to repurchase if the stock becomes underpriced).

⁵² See Stephens & Weisbach, *supra* note 6, at 314.

tivities. In their quarterly public filings, firms are now required to disclose, among other things, (1) the total number of shares repurchased during the previous quarter; (2) the average price paid for those shares; (3) the number of shares that were purchased in the preceding quarter as part of a publicly announced plan; and (4) the maximum number of shares, or approximate dollar value, that may yet be repurchased under any share repurchase program.⁵³

Importantly, the SEC's disclosure requirements are retrospective. Investors may not learn about a firm's repurchases until several months later. As we will see in Part II, allowing managers to buy back shares secretly makes it easier for them to profit from bargain repurchases and misleading repurchase announcements.

2. Stock Manipulation Liability and the Rule 10b-18 Safe Harbor

Corporations, like individuals, are subject to the anti-manipulation provisions of Section 9(a)(2) of the Securities Exchange Act of 1934.⁵⁴ These provisions make

⁵³ Purchases of Certain Equity Securities by the Issuer and Others, Exchange Act Release Nos. 33-8335, 34-48766 (2003) (codified at 17 C.F.R. pts. 228, 229, 240, 249, 270, 274) [hereinafter Purchases of Certain Equity], *available at* <http://www.sec.gov/rules/final/33-8335.htm>. Firms must also disclose the terms of any publicly announced share repurchase program, including (1) the date of announcement; (2) the specific share or dollar amount approved (if any); (3) the expiration date of the repurchase plan (if any); and (4) each share repurchase plan that has expired during the previous quarter, as well as those under which the firm does not intend to make any future purchases. *Id.*

⁵⁴ 15 U.S.C. § 78i(a)(2) (2000).

it illegal to conduct a series of transactions creating actual or apparent active trading in a security to induce others to buy or sell the security.⁵⁵ Purchases of a firm's own shares could be considered manipulative if the intent of the repurchase is to drive up the stock price by making it appear that there is unusually heavy demand for the stock.

In 1982, the SEC adopted Rule 10b-18,⁵⁶ which provides repurchasing firms a "safe harbor" from anti-manipulation liability when they repurchase their shares in accordance with the rule's "manner, timing, price, and volume" conditions.⁵⁷ Among other things, Rule 10b-18 generally requires a firm seeking safe harbor to: (1) limit the number of shares it purchases on the open market each day to 25% of the average daily trading volume of the previous month;⁵⁸ and (2) not offer a price that exceeds the highest independent bid or the last independent transaction price on the exchange (if any), whichever is higher.⁵⁹ The rule went into effect in

⁵⁵ *Id.*

⁵⁶ See 17 C.F.R. § 240.10b-18 (2004).

⁵⁷ Rule 10b-18 and Purchases of Certain Equity Securities by the Issuer and Others, Exchange Act Release No. 34-46980 (Dec. 10, 2002). The rule also provides that an issuer will not be liable under Rule 10b-5 solely by reason of the manner, timing, price, or volume of its repurchases if the issuer repurchases its common stock in accordance with the safe harbor. Purchases of Certain Equity, *supra* note 53.

⁵⁸ However, a firm may make a block-size purchase one day per week under Rule 10b-18 as long as it does not make any other purchases that day under Rule 10b-18, and as long as the block purchase is excluded from the calculation of average daily trading volume. 17 C.F.R. § 240.10b-18(b)(4).

⁵⁹ *Id.* § 240.10b-18(b)(3).

1983 and appears to have made management more willing to engage in open market repurchases: the volume of repurchases increased sharply shortly after the rule became effective.⁶⁰

However, firms are not required to abide by Rule 10b-18's guidelines and many firms fail to comply with the requirements of the safe harbor.⁶¹ Not surprisingly, firms engaging in open market repurchases have been able to accumulate shares relatively quickly. One study found that firms repurchase over half the targeted shares within three to six months of the announcement date.⁶² Thus, Rule 10b-18 has not prevented managers from rapidly repurchasing shares that are temporarily underpriced.

3. Insider Trading Liability and Rule 10b-5

The third element of the regulatory framework governing stock buybacks is insider trading law. Corporations trading in their own shares are subject to Rule 10b-5, the most important restriction on insider trading.⁶³ Rule 10b-5 requires insiders—including the firm and its officers and directors—to refrain from trading

⁶⁰ See Grullon & Michaely, *The Information Content*, *supra* note 4, at 659 (reporting that the amount of repurchases had tripled one year after Rule 10b-18 went into effect).

⁶¹ See, e.g., Douglas O. Cook et al., *An Analysis of SEC Guidelines for Executing Open Market Repurchases*, 76 J. BUS. 289, 291 (2003).

⁶² See Stephens & Weisbach, *supra* note 6, at 323.

⁶³ The SEC promulgated Rule 10b-5 under Section 10 of the Securities Exchange Act of 1934. See 17 C.F.R. § 240.10b-5 (2004).

in the firm's shares while in possession of "material" nonpublic information regarding their value.⁶⁴

Rule 10b-5 appears to prohibit a firm from repurchasing shares when its managers have private information indicating the stock is underpriced. However, it cannot always prevent firms and their managers from trading profitably on nonpublic information. The rule prohibits trading on inside information only when that information is legally "material."⁶⁵ Internal projections and other forms of "soft" information are not considered legally material even though they may be important and of great interest to investors.⁶⁶ As a result, managers are free to conduct share repurchases without disclosing a wide range of valuable inside information.⁶⁷ Moreover, courts have been reluctant to find even non-soft information "material" unless it concerns a "bombshell event," such as an imminent

⁶⁴ See, e.g., *McCormick v. Fund Am. Cos.*, 26 F.3d 869, 876 (9th Cir. 1994) ("[T]he corporate issuer in possession of material nonpublic information ... must, like other insiders in the same situation, disclose that information to its shareholders or refrain from trading with them."); Fried, *Reducing the Profitability*, *supra* note 11, at 330.

⁶⁵ See *United States v. O'Hagan*, 521 U.S. 642, 643 (1997).

⁶⁶ See Mitu Gulati, *When Corporate Managers Fear a Good Thing is Coming to an End: The Case of Interim Nondisclosure*, 46 UCLA L. REV. 675, 682 (1999) (reporting that recent case law and the SEC's position do not oblige companies to disclose forecasts).

⁶⁷ See Fried (1998), *Reducing the Profitability*, *supra* note 11, at 310; ROBERT CLARK, CORPORATE LAW 507-08 (1986) (noting that managers may have access to bits of information that are not important enough individually to be considered legally material but that in aggregate are very valuable); Donald Langevoort, *Rereading Cady, Roberts: The Ideology and Practice of Insider Trading Regulation*, 99 COLUM. L. REV. 1319, 1335 (1999) ("Insiders at almost all times have the advantage of superior insight and a sense of which way things are going even if they do not possess a fact that a court would call material and nonpublic.").

takeover offer whose announcement will dramatically change the stock price.⁶⁸ As we will see in Part II.A. 2, the high threshold for materiality permits insiders to trade indirectly through repurchases on important non-public information.⁶⁹

⁶⁸ See Fried, *Reducing the Profitability*, *supra* note 11, at 336.

⁶⁹ See Dennis W. Carlton & Daniel Fischel, *The Regulation of Insider Trading*, 35 STAN. L. REV. 857, 886-87 (1983).

II. Informed Trading and False Signaling

Part I explained that repurchases may benefit shareholders by more tax-efficiently distributing excess cash, reducing transaction costs for small payouts, acquiring shares for employee stock option programs, and increasing liquidity. This Part shows that managers also are able to misuse repurchases for informed trading and false signaling. Part II. A demonstrates that managers aware their firms' stock is underpriced can, and do, use bargain repurchases to enrich themselves. Part II. B describes how managers can use misleading repurchase announcements to boost the stock price before unloading their own shares. It also explains how bargain repurchases and false signaling form a synergetic relationship: bargain repurchases facilitate false signaling, and vice versa.

A. Informed Trading

Managers who are aware their stock is undervalued have the ability and incentive to use repurchases to indirectly buy stock for themselves at a low price. And there is a considerable amount of empirical evidence that managers conduct such bargain repurchases.

1. Managers' Ability and Incentive

Corporate managers have access to important private information relating to firm value by virtue of their positions within their firms. They use this information while trading personally in shares of their own firms. Managers increase their selling before releasing “bad news” and increase their buying before releasing “good news.”⁷⁰ In addition, corporate insiders as a group consistently earn excess returns in their personal trading.⁷¹ In earlier work, I estimated that managers have been making approximately \$5 billion in extra profits each year trading on inside information.⁷²

Managers may well be able to earn these insider trading profits without breaking the law. As I explained earlier, the law prohibits trading on inside information only when that information is legally “material.”⁷³ And certain types of information are not considered legally material even though they would be of great inter-

⁷⁰ See Fried, *Reducing the Profitability*, *supra* note 11, at 317-20 (collecting and summarizing studies). For example, corporate insiders sell heavily in the five-month period preceding a bankruptcy announcement. See Thomas Gosnell et al., *Bankruptcy and Insider Trading: Differences Between Exchange-Listed and OTC Firms*, 47 J. FIN. 349, 350-53 (1992); Hasan Nejat Seyhun & Michael H. Bradley, *Corporate Bankruptcy and Insider Trading*, 70 J. BUS. 189 (1997).

⁷¹ See Fried, *Reducing the Profitability*, *supra* note 11, at 321-23 (collecting and summarizing studies). One study found that in managers' personal trading between 1984 and 1989, which presumably includes trades not based on inside information (for example, liquidity-driven sales), they annually earned excess returns averaging 7%. See H. Nejat Seyhun, *The Effectiveness of Insider Trading Sanctions*, 35 J.L. & ECON. 149, 158-60 (1992).

⁷² See Fried, *Reducing the Profitability*, *supra* note 11, at 323.

⁷³ See *supra* Part I.C.3.

est to investors.⁷⁴ As a result, managers are permitted to personally trade on a wide range of valuable inside information.

I will now explain how managers with such inside information can use share repurchases to indirectly buy stock at a bargain price. Diagram 1, below, helps show that a share repurchase has the same effects as the following three-step transaction (ignoring taxes and transaction costs): (1) non-selling shareholders directly purchase shares from sellers at the repurchase price; (2) the firm issues a dividend equal to the dollar amount of the repurchase; and (3) the firm effects a reverse stock split.

⁷⁴ See Fried, *Reducing the Profitability*, *supra* note 11, at 310;

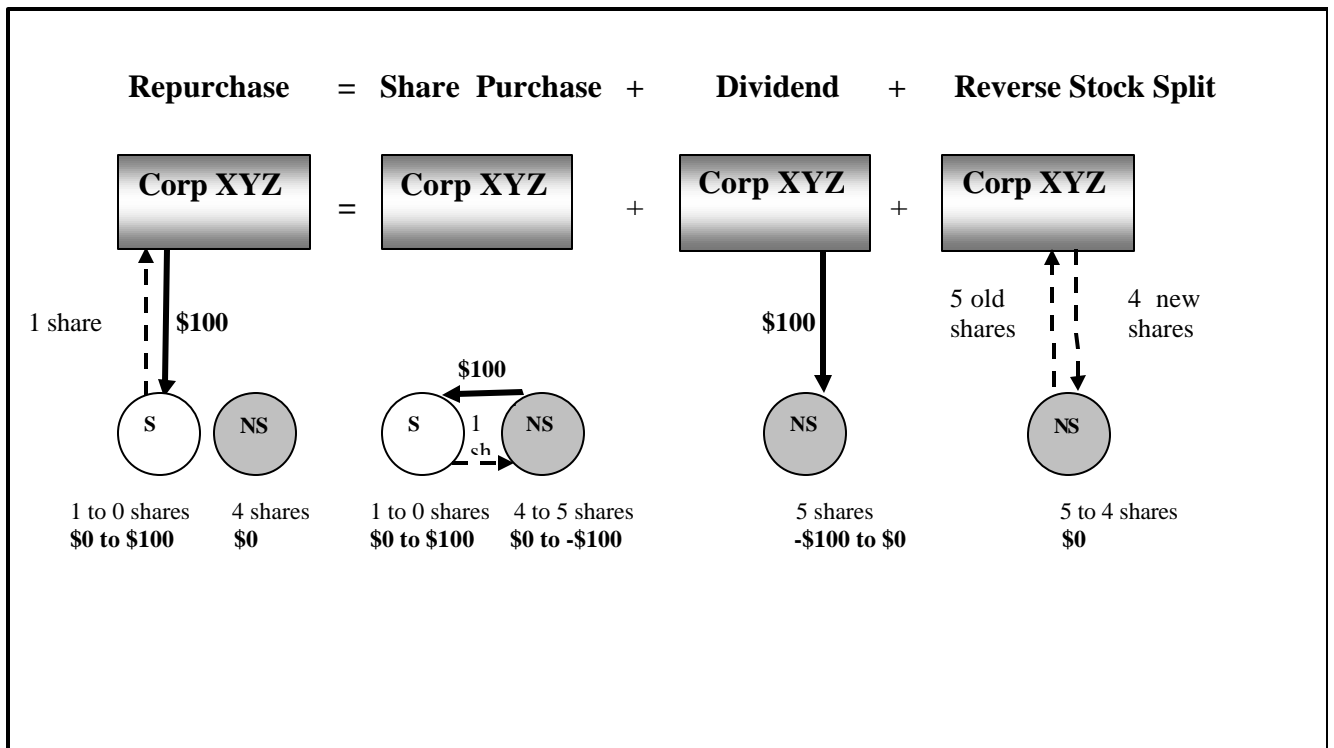


Diagram 1: Share Repurchase as Three-Step Transaction

Suppose that XYZ Corporation has five shares outstanding. Four are held by non-selling shareholders, collectively designated as “NS;” one is held by a seller,

designated as “S”. The figure to the left of the equality symbol (“=”) shows a stock repurchase in which XYZ repurchases S’s single share for \$100. The effect of the repurchase is that S has exchanged his share for \$100, XYZ has distributed \$100 in cash, and NS owns four (100%) of XYZ’s four outstanding shares.

The figures to the right of the equality symbol show three transactions: (1) NS buys S’s share for \$100, and now holds five shares; (2) XYZ distributes a dividend of \$100 to NS; and (3) XYZ effectuates a reverse stock split, converting NS’s five existing shares into four new shares. The results of these three transactions are identical to those of the repurchase on the left: S has exchanged his share for \$100; XYZ has distributed \$100 in cash, and NS owns four (100%) of XYZ’s four shares.

Because the third step of the three-step transaction – the reverse stock split -- is merely a nominal change with no economic significance, we can ignore it and focus only on the first two transactions: (1) the shareholder stock transaction, in which non-selling shareholders buy stock from the seller; and (2) the payout. Thus, again ignoring taxes and transaction costs, the economic effects of a repurchase are the same as a two-step transaction in which nonselling shareholders buy stock directly from sellers at the repurchase price and the firm then issues a dividend to nonselling shareholders.

Consider the distributional effects of these two transactions. The second transaction—the dividend payout to remaining shareholders—has no distributional effect among shareholders because the seller no longer has an economic interest in the firm and the dividend affects all nonselling shareholders equally. However, the first transaction—the shareholder-level trading transaction—can redistribute value among shareholders. If the purchase price is less than the stock’s actual

value, the shareholder-level trading transfers value from the seller to non-selling shareholders. Because the economic consequences of a repurchase are identical to the economic effects of this two-step transaction, it follows that repurchasing stock for a price below the stock's actual value transfers value from sellers to nonselling shareholders. In effect, nonselling shareholders buy shares from the sellers at a bargain price.

In general, the value transferred to nonselling shareholders equals the difference between the actual value of the stock and the repurchase price, multiplied by the number of shares repurchased. Nonselling shareholders benefit in the transfer pro rata. Thus, the more shares managers own, the more value they can capture from selling shareholders, and the greater is their incentive to conduct bargain repurchases.

In fact, managers of U.S. firms announcing repurchases tend to own a substantial fraction of the firms' shares before the repurchase—an average of 15% to 20%.⁷⁵ If managers own (and retain) 15-20% of a repurchasing firm's shares, they would capture an average of one out of every five or six dollars of value transferred from sellers to non-selling shareholders. Accordingly, managers can benefit significantly from bargain repurchases.

To be sure, managers buying shares for their own account capture 100% of any insider trading profits. Thus, one might wonder why managers ever bother to use a repurchase to indirectly buy underpriced stock. Personal insider trading would

⁷⁵ See William J. McNally, *Open Market Stock Repurchase Signaling*, 28 FIN. MGMNT. 55, 59 (1999); Vafeas, *supra* note 6, at 112-13.

appear to be a more efficient way for managers to exploit private information indicating that the stock is underpriced.

However, a number of factors may make it easier for managers to use repurchases to acquire underpriced stock than to buy the shares directly for their own accounts. First, managers facing liquidity constraints might find it difficult to buy as many shares as they would like. Such managers might purchase as many shares as they can directly in the market, given their liquidity constraints, and then, after they have reached those limits, conduct a repurchase. In fact, managers frequently buy shares for their own accounts before announcing repurchases.⁷⁶

Second, Section 16(b) of the Securities Exchange Act of 1934, which prohibits managers from making what are commonly referred to as “short-swing profits,” will prevent managers from directly buying shares in many circumstances.⁷⁷ A corporate insider makes a short-swing profit if she buys and sells stock within a six-month period and the purchase price is lower than the sale price.⁷⁸ Thus, a manager who either has sold shares at a higher price within the previous six months or expects to sell shares at a higher price within the next six months will face Section 16(b) liability if she buys stock directly in the market. In contrast, Section 16(b) does not apply to indirect purchases through stock buybacks.

⁷⁶ See Raad & Wu, *supra* note 6, at 57.

⁷⁷ See 15 U.S.C. § 78p(b) (2000).

⁷⁸ *Id.* The rule applies not only when the purchase precedes the sale, but also when the sale precedes the purchase. *Id.*

Third, many firms impose “trading-windows” and “blackout” periods, which limit managers’ trading to certain prescribed periods throughout the year.⁷⁹ These restrictions may prohibit some managers from buying stock at a time when they believe that the stock is underpriced. During these no-trade periods, the managers can use the firm to indirectly buy low-price shares they could not purchase directly.

Of course, managers do not have unlimited ability to use repurchases for informed trading. Managers do not always have private information indicating that the firm’s stock is significantly underpriced. Even if managers know the stock is a bargain, the firm may lack sufficient cash to buy back stock.⁸⁰ Managers might also be reluctant to repurchase shares when their private information is clearly “material” under the insider trading laws. Nevertheless, these constraints do not appear to prevent managers from frequently engaging in bargain repurchases, as the evidence below makes clear.

2. Evidence

⁷⁹ See J. Carr Bettis et al., *Corporate Policies Restricting Trading by Insiders*, 57 J. FIN. ECON. 191 (2000).

⁸⁰ Managers of an underpriced firm might be able to raise funds by issuing debt, but there is likely to be a time lag, during which the stock might become fairly priced (or even overpriced). In addition, the costs to managers of issuing additional debt, such as the pressure to make interest and principal payments, might exceed the expected benefit to them of a bargain repurchase.

Having shown that managers have the ability and incentive to conduct bargain repurchases, I now turn to the considerable empirical evidence indicating that managers often use repurchases to indirectly buy stock at a low price. The evidence can be divided into two categories: (1) managers' behavior and statements; and (2) stock price movements around and following repurchase program announcements.

a. Manager Behavior

Managers' behavior and statements before, during, and after buyback program announcements are consistent with the use of repurchases for informed trading. To begin, the relationship between managers' equity stakes and their incentive to conduct bargain repurchases suggests that managers with larger ownership interests are not only more likely to conduct repurchases but also more likely to conduct them when stock is underpriced. A stock is likely to have been underpriced if, after the repurchase, its price experiences positive abnormal (i.e., market-adjusted) returns. Thus, one would expect a positive correlation between managerial ownership and post-repurchase stock returns. Indeed, there is a positive relationship between pre-repurchase managerial percentage ownership and post-repurchase stock appreciation.⁸¹

⁸¹ See Raad & Wu, *supra* note 6, at 57 (1995) (finding that abnormal returns following repurchases are positively correlated with pre-buyback management ownership).

Managers' behavior after repurchase announcements is also consistent with the use of repurchases for informed trading. In particular, managers are more likely to follow up a repurchase program announcement with actual repurchases if the stock subsequently performs poorly.⁸² Focusing on "value firms" (firms with a high book-to-market ratio) that had announced repurchases, one study found that among the firms in which managers subsequently repurchased shares, four-year post-announcement abnormal returns were 25%, compared to 0% for firms that did not subsequently repurchase any shares.⁸³ A recent study of repurchases on the Hong Kong Stock Exchange, also concluded that managers were using inside information to make repurchase decisions.⁸⁴

Survey data from the last several decades further support the conclusion that managers frequently use repurchases to buy stock they know is underpriced. According to the authors of a major 2004 survey of financial executives regarding their firms' payout policies, "the most popular response for all repurchase questions on the entire survey is that firms repurchase when their stock is a good value, relative to its true value: 86.4% of all firms agree or strongly agree with this supposition."⁸⁵ The study reported that 50% of CFOs "say that their firm tracks repur-

⁸² See Stephens & Weisbach, *supra* note 6.

⁸³ See Konan Chan et al., Do Managers Trade Consistently? Evidence Linking Insider Trading to Actual Share Repurchase Activity 2-3 (Sept. 2003) (working paper) (on file with California Law Review).

⁸⁴ See Paul Brockman & Dennis Y. Chung, *Managerial Timing and Corporate Liquidity: Evidence from Actual Share Repurchases*, 61 J. FIN. ECON. 417, 418 (2001).

⁸⁵ Brav et al., *supra* note 38, at 17-18.

chase timing and that their firm can beat the market.”⁸⁶ According to the survey’s organizers, “executives tell us that they accelerate (or initiate) share repurchases when their stock price is low.”⁸⁷ Earlier studies yielded similar responses. When asked in an anonymous 1988 survey what was the most important circumstance precipitating a repurchase, 66% of the surveyed managers responded “low stock price,” six times as many as the next most popular answer, “need for treasury stock.”⁸⁸ The correlation between managerial ownership and post-repurchase stock price appreciation, managers’ post-announcement buyback decisions, and managers’ own statements about their motives in repurchasing stock all point to the frequent use of repurchases to buy stock at a bargain price.

b. Stock Price Behavior

Stock price behavior during and after repurchase announcements also suggest that inside information drives many repurchases. Consider first stock price movements around the time of repurchase announcements. If managers often use repurchases to buy stock at a low price, a repurchase announcement will tend to signal that the expected value of the stock is higher than the current market

⁸⁶ *Id.* at 18.

⁸⁷ *Id.* at 17.

⁸⁸ George P. Tsetsekos et al., *A Survey of Stock Repurchase Motivations and Practices of Major U.S. Corporations*, 7 J. APPLIED BUS. RES. 15, 17-18, tbl.2 (1991).

price.⁸⁹ Indeed, when a repurchase is announced, the market reacts to the announcement by bidding up the price of the stock. Repurchase announcements are associated with short-term abnormal price increases averaging 3% to 4% in the 1980s⁹⁰ and 1% to 2% in the 1990s.⁹¹

Moreover, stock price movements are more extreme around announcements that likely reflect information-based trading. Firms that repurchase shares consistently—and are therefore likely to be buying shares for ongoing employee stock option programs rather than engaging in informed trading—experience much lower announcement returns than firms that announce a repurchase for the first time or are infrequent repurchasers.⁹² Infrequent repurchase announcers—those more

⁸⁹ See, e.g., Ikenberry et. al., *Market Underreaction*, *supra* note 6 at 190. A stock's value depends on the expected value of its future cash flows, which in turn is a function of the amount and timing of those cash flows as well as the interest rate appropriate for discounting the cash flows. The higher the volatility, the higher the discount rate. Thus, managers can reap profits by trading based on private information about the amount, timing, or volatility of future cash flows. Indeed, there is substantial evidence that repurchasing firms have much lower future volatility than the market had assumed. See Grullon & Michaely, *The Information Content*, *supra* note 4, at 678.

⁹⁰ See Ikenberry et al., *Market Underreaction*, *supra* note 6, at 190 (reporting that the average market reaction to OMR announcements for all of the OMRs announced between January 1980 and December 1990 by firms listed on the ASE, NYSE, and NASDAQ was 3.54%).

⁹¹ See Kahle, *supra* note 6, at 245-46 (finding that between 1991 and 1996 the average abnormal return around the announcement of open market repurchases by firms in the Execucomp database was 1.6%).

⁹² See Jagannathan & Stephens, *supra* note 6, at 71-72.

likely to be engaged in bargain repurchasing—also tend to have higher levels of managerial ownership.⁹³

Consider also post-announcement returns. If managers use repurchases to buy stock at a low price, the stock prices of firms announcing repurchases should, on average, outperform those of firms not announcing repurchases in the post-announcement period. Indeed, stock prices of repurchasing firms increase faster than stock prices of similar firms not conducting repurchases. A recent study found that shares of firms announcing repurchases earn abnormal returns of 6.7% in the first year following the announcement and 23.6% over the subsequent four years.⁹⁴ These post-repurchase returns strongly suggest that, as a group, firms announcing OMRs are underpriced at the time repurchase programs are announced.⁹⁵

To be sure, each of these stock price patterns could have an explanation other than the use of repurchases for informed trading. Consider, for example, the mar-

⁹³ *Id.*

⁹⁴ See Konan Chan et al., *Economic Sources of Gains in Stock Repurchases*, 39 J. FIN. QUANTITATIVE ANALYSIS 461 (2004); see also Chan et al., *supra* note 83, at 2 (examining 5,508 repurchase announcements between 1980 and 1996 and finding abnormal stock price performance of 5% the first year and 22% over four years among firms repurchasing shares, and a four-year abnormal return of 25% among value firms.).

⁹⁵ The fact that managers have inside information they can use in repurchasing shares does not mean that every repurchase will, ex post, turn out to transfer value from sellers to non-selling shareholders. Managers with firm-specific inside information suggesting that the stock is underpriced may buy stock shortly before an unexpected large interest rate increase, slowdown in the economy, or adverse change in the firm's industry that cause the stock price

ket's positive reaction to repurchase announcements. While it is consistent with the stock of repurchasing firms being, on average, underpriced, it is also consistent with traders learning that managers may distribute the firm's excess cash rather than continue to hoard it. However, the overall pattern of stock price movements around repurchases, along with managers' behavior and their own accounts of why they repurchase shares, collectively provide extremely strong evidence that managers often use repurchases to indirectly buy underpriced stock.

Before proceeding, it is worth noting that the stock market's positive reaction to a repurchase program announcement will – when the stock is underpriced -- narrow the gap between the share price and its actual value. The price increase following the announcement, in turn, will reduce managers' profits from bargain repurchases.

However, when the stock is underpriced, the stock price increase following a repurchase announcement is unlikely to close, or even substantially reduce, the underpricing gap. The market understands that boards may authorize a buyback even when the stock is not underpriced. For example, the board might approve a repurchase so that managers can acquire shares for an employee stock option program. Moreover, as we will shortly see, managers might announce a repurchase program they have no plan to conduct simply to boost the stock price, perhaps to unload their own shares at a higher price. Thus, a repurchase announcement does not clearly signal that the stock is underpriced. The likelier it is that a repurchase

to fall. However, managers repurchasing on inside information can realistically expect to transfer value from sellers and, on average, are likely to do so.

announcement does not reflect underpricing, the more muted the market's response to such an announcement will be, and the more repurchasing managers can profit when the stock is in fact underpriced.

B. False Signaling

Managers can enrich themselves not only through bargain repurchases but also by “false signaling” -- making misleading repurchase authorization announcements to inflate the stock price before selling their own shares. I will now describe false signaling in greater detail, and show that it forms a synergetic relationship with bargain repurchases. Before doing so, however, I briefly present and critique the standard signaling explanation for open market repurchases found in the economics literature, which I call “faithful signaling.”

1. The Faithful Signaling Story

A number of economists have argued that managers use open market repurchases to credibly signal that their firm's stock is underpriced.⁹⁶ Specifically, managers who have private information indicating that the stock is underpriced and who wish to send a credible signal to that effect can do so by committing to repurchase stock while not selling their own shares.⁹⁷

As we saw, a repurchase is distributionally equivalent to non-selling shareholders buying sellers' shares. Thus, when managers make such a double commitment—first, to have the firm repurchase shares, and second, not to sell their own shares until the underlying good news emerges—they effectively commit to indirectly buy their pro-rata share of the acquired shares at the repurchase price. If the stock is actually worth less than the repurchase price, the repurchase makes managers worse off by causing them to indirectly buy shares at an inflated price. Thus, by committing to repurchase stock and not to sell their own shares, managers can send a credible signal that share value exceeds the repurchase price.⁹⁸

While it is theoretically possible to use repurchases for such faithful signaling, there is little evidence managers actually do so.⁹⁹ When announcing repurchase

⁹⁶ See McNally, *supra* note 75, at 56.

⁹⁷ See, e.g., Buckley, *supra* note 6, at 539.

⁹⁸ See *id.*

⁹⁹ See Fried, *Open Market*, *supra* note 5, at 879-881; see also Ok-Rial Song, *Hidden Social Costs of Open Market Share Repurchases*, 27 IOWA J. CORP. L. 425 (2002). For an explanation why

programs, managers do not commit to purchase a minimum number of shares.¹⁰⁰ In fact, about 25% of announcing firms do not buy back a single share.¹⁰¹ Moreover, managers do not promise to retain their own shares. Nor is there an implicit commitment by managers to do so. Indeed, managers frequently sell shares around repurchase announcements. The selling is so heavy that both mean and median managerial ownership (as a percentage of outstanding shares) fall around the time of repurchase announcements.¹⁰² Thus, even if there were a commitment on the part of the firm to buy back shares, the repurchase announcement would still not credibly signal underpricing. However, as I will shortly explain, managers' selling behavior following repurchase program announcements is completely consistent with false signaling.

2. False Signaling with Misleading Repurchase Announcements

Managers wishing to sell their own shares at a higher price may have an incentive to announce a share repurchase they do not intend to conduct to boost the stock price. And there is evidence consistent with such false signaling.

the same credible signal can be sent without an OMR, and why it is against managers' self-interest to engage in faithful signaling with or without an OMR, see Fried, *Open Market*, *supra* note 5, at 875-79.

¹⁰⁰ See David L. Ikenberry & Theo Vermaelen, *The Option to Repurchase Stock*, 25 FIN. MGMT. 9, 10 (1996).

¹⁰¹ See Utpal Bhattacharya & Amy K. Dittmar, *Costless Versus Costly Signaling in Capital Markets: Theory and Evidence* 4 (Oct. 2001) (working paper), available at <http://ssrn.com/abstract=250049>.

¹⁰² See Vafeas, *supra* note 6.

a. Managers' Incentive and Ability

We have seen that repurchase program announcements are generally greeted favorably by the market.¹⁰³ Market participants know that many repurchases are information-driven. Thus, an announcement signals that the stock might be undervalued, causing investors to bid up the price.¹⁰⁴

Managers can exploit the market's predictable reaction to repurchase announcements by announcing the authorization of buyback programs they have no intention of conducting, and then unloading their shares at the higher post-announcement price. Most managers receive a substantial portion of their compensation in the form of stock options that give them the right to purchase the corporation's shares at a discounted price.¹⁰⁵ After the options vest, managers exercise them and sell most or all of the underlying stock.¹⁰⁶ Managers sell for many different reasons. Some wish to diversify or gain liquidity. Others may be aware of

¹⁰³ See *supra* Part II.A.2.b.

¹⁰⁴ There are, of course, other reasons why market participants might react favorably to a repurchase program announcement besides the signal it sends about the stock's actual value. For example, investors might bid the price up because they believe the firm will now distribute excess cash that it had been inefficiently hoarding. For our purposes, what is important is that at least part of the stock price reaction reflects the possibility of underpricing.

¹⁰⁵ See Murphy, *supra* note 42, at 2507-10.

¹⁰⁶ See BEBCHUK & FRIED, *supra* note 41, at 176 (2004).

“bad news” that is likely to cause the stock price to drop.¹⁰⁷ Whatever the motivation, however, managers intending to sell shares wish to dispose of them at the highest possible price. Given the effect of repurchase announcements on stock prices, managers may sometimes have an incentive to announce a repurchase solely to boost the price of the stock before selling their shares, even if they have no immediate intention of repurchasing any shares.

By announcing a repurchase program even when they have no intention of repurchasing stock, managers about to sell their own shares essentially attempt to “mimic” managers of underpriced firms that use repurchases to buy stock at a low price. This mimicking appears to be successful: there is no difference in market reaction between announcements followed by repurchase activity and announcements not followed by actual buybacks¹⁰⁸

To the extent that managers use misleading repurchase announcements to sell their shares for more than their actual value, they transfer value from the parties buying their shares—either public investors or market makers. The amount transferred is simply the difference between the sale price and the stock’s actual value, multiplied by the number of shares sold.

¹⁰⁷ For an explanation of the limited effect that insider trading laws have on managers’ ability to trade on inside information, see *supra* Part I.C.3. For a summary of empirical studies finding that managers sell before the release of bad news, see Fried, *Reducing the Profitability*, *supra* note 11, at 317-20.

¹⁰⁸ See Bhattacharya & Dittmar, *supra* note 101, at 27.

To be sure, average stock price reactions to repurchase announcements are fairly modest: only several percent.¹⁰⁹ But these figures are averages; in some cases, an announcement might be expected to boost the stock price substantially. Moreover, for managers who are either selling millions of dollars of stock or exercising expiring options with strike prices near the pre-announcement market price, the ability to sell shares for even a slightly higher price may be important. As we will now see the evidence is consistent with managers' use of repurchase announcements to boost the stock price for this purpose.

¹⁰⁹ See Kahle, *supra* note 6, at 245-46 (finding that between 1991 and 1996 the average abnormal return around the announcement of open market repurchases by firms in the Execucomp database was 1.6%).

b. Evidence

The empirical evidence that discredits the faithful signaling story is consistent with managers announcing repurchase programs they have no intention of executing simply to increase the stock price before selling their own shares. False signaling would predict that many firms announcing repurchase programs do not repurchase many (or any) shares. In fact, 25% of announcing firms do not repurchase a single share.¹¹⁰ If firms announced share repurchase authorizations only to conduct low-price repurchases or to use repurchases for one of the shareholder-serving reasons described in Part I.B, one would expect most buyback program announcements to be followed by at least some repurchases. The fact that a substantial fraction of announcing firms do not buy back stock suggests that these repurchase program announcements may serve another purpose: to boost the stock price.¹¹¹

¹¹⁰ See Utpal Bhattacharya & Amy K. Dittmar, Costless Versus Costly Signaling in Capital Markets: Theory and Evidence 4 (Oct. 2001) (working paper), *available at* <http://ssrn.com/abstract=250049>.

¹¹¹ Directors might also authorize the managers to buy back shares when the stock is not underpriced so that -- should the stock become underpriced in the future -- managers can quietly conduct bargain repurchases without first making any public announcement..See *generally* Ikenberry & Vermaelen, *supra* note 51. Such option-creating announcements will not be followed by an actual repurchase unless managers subsequently learn that the stock is underpriced and have cash available to buy back stock. It is possible, then, that at least some of repurchase program announcements not followed by actual buybacks have a purpose other than price-boosting. However, unlike false signaling, the option explanation for such announcements cannot account for a variety of findings I now turn to discuss, including the finding that there is heavy managerial selling around repurchase program announcements.

False signaling would also predict that, around misleading repurchase program announcements, there is large-scale selling by managers. In fact, there is considerable selling activity around repurchase program announcements generally. One study found that the selling is heavy enough to cause both mean and median managerial ownership to decline.¹¹² The study does not distinguish between announcing firms that subsequently repurchased shares and announcing firms that did not. Thus, its findings do not directly indicate whether, as the false signaling explanation would predict, the observed post-announcement managerial selling is heavily concentrated in announcing firms that do subsequently buy back stock.

However, other findings suggest that there is likely to be a strong negative correlation between post-announcement selling and subsequent buyback activity. Managers generally earn abnormal positive returns trading in their own firms' stock – that is, they tend to buy when the stock is underpriced and sell when it is overpriced.¹¹³ And, as we have seen, managers are more likely to repurchase shares after a repurchase announcement if the stock is underpriced.¹¹⁴ One would therefore not expect post-announcement managerial selling to be randomly distributed among repurchasing and non-repurchasing firms. Instead, these studies predict that post-announcement selling is likely to be disproportionately heavy

¹¹² See Vafeas, *supra* note 6.

¹¹³ See Fried, *Reducing the Profitability*, *supra* note 11, at 317-20 (collecting and summarizing studies).

¹¹⁴ See, e.g., Konan Chan et al., *supra* note 83, at 2-3.

in firms that subsequently do not repurchase shares, which is consistent with the use of buyback announcements for false signaling.

False signaling also predicts that the stock of some firms announcing repurchase programs is likely to be overpriced; managers simply wish to boost the stock price further before unloading their shares. It also suggests that false-signaling managers may simultaneously take other steps to inflate the stock price. In fact, a recent study finds that managers who announce that they are repurchasing stock because the stock is underpriced, and who thus may be attempting to boost the stock price, tend to manipulate earnings upward around the time of the announcement.¹¹⁵ Although the market reacts positively to these announcements, with average abnormal returns of almost 3% around the announcement date, these stocks experience large negative abnormal returns over subsequent months, suggesting that the firms might have been overpriced at the time of the repurchase announcements.¹¹⁶

Finally, managers themselves admit that they sometimes announce repurchase programs simply to boost the stock price. Following the 1987 stock market crash, for example, many firms announced repurchase programs to show confidence in their stock and bolster stock prices.¹¹⁷ However, the number of outstanding

¹¹⁵ See De-Wai Chou & Jane-Raung Philip Lin, False Signals from Open Market Stock Repurchase Announcements: Evidence from Earnings Management and Analysts' Forecast Revisions 3 (Nov. 20, 2003) (working paper), available at <http://ssrn.com/abstract=471122>.

¹¹⁶ See *id.* at 6.

¹¹⁷ Jay Palmer, *Promises, Promises: Or What Happened to All Those Post-Crash Buybacks?*, 13 BARRON'S 21, 21 (1988).

shares declined for only 41% of the NYSE and AMEX firms announcing repurchases and for only 33% of the OTC firms announcing repurchases.¹¹⁸ After Arkansas Best announced an intention to repurchase two million shares, one manager was later quoted in *The New York Times* as saying, “I don’t think we ever intended to repurchase two million shares. We did it to build confidence.”¹¹⁹ According to a vice president at Standard & Poor’s, a credit rating agency, “A problem with repurchase announcements is that companies have informed S&P that they have little intention of implementing the authorizations. In fact, many firms made big repurchase announcements after the crash, and then ran over to S&P in an effort to protect their credit rating.”¹²⁰ Thus, by managers’ own accounts, they announce repurchases without any intent to buy back stock, solely to boost the stock price.

Given the available data, it is difficult to know how many repurchase announcements are made opportunistically to boost the stock price before managers sell their shares. Nevertheless, the data on post-announcement repurchase activity and managerial selling, along with managers’ own accounts, are all consistent with managers using repurchase announcements to boost stock prices, which in turn enables them to sell their shares at a higher price. I will now explain how

¹¹⁸ Beverly Kracher & Robert R. Johnson, *Repurchase Announcements, Lies and False Signals*, 16 J. BUS. ETHICS 1677, 1678 (1997).

¹¹⁹ Palmer, *supra* note 117, at 21.

¹²⁰ I. Picker, *Are Those Buyback Programs For Real?*, INSTITUTIONAL INVESTOR, Mar. 1988, at 151.

false signaling can provide another, indirect benefit to managers: increasing their profits from bargain repurchases.

3. Bargain Repurchases and False Signaling: The Synergy

Although both bargain repurchases and false signaling arise from public firms' use of buybacks to distribute cash, the two forms of opportunism are in some ways quite different. One involves buying stock at a low price; the other, selling at a high price. However, it turns out that these differences give rise to a useful synergy. The more bargain repurchases managers conduct, the easier it is for them to profit from false signaling. And the more false signaling there is, the larger managers' bargain repurchase profits can be.

It is perhaps easiest to see that the widespread use of information-driven buybacks facilitates managers' use of misleading repurchase program announcements to boost stock prices. Consider a world in which managers can engage in false signaling but not bargain repurchases. In such a world, a repurchase announcement would not signal underpricing; the stock price would therefore increase little, if at all, in response to such announcement. And managers would find it difficult to sell their own shares at an inflated price. However, if managers can engage in bargain repurchases as well as false signaling, a repurchase program announcement now indicates that the stock may be underpriced, boosting the stock price more, and making it easier for managers to profit from inflated-price sales.

Similarly, the use of misleading repurchase announcements makes it easier for managers to profit from information-based repurchases. Consider a world in

which managers can engage in bargain repurchases but not false signaling. In such a world, a repurchase announcement would send a stronger signal of underpricing. Investors would bid the stock price higher, reducing managers' profits from their bargain repurchases. But if managers can engage in false signaling as well as bargain repurchases, it is less likely that a particular announcing firm's stock is actually underpriced. As a result, the reaction to repurchase program announcements will be more muted, and it will be easier for managers of underpriced firms to announce repurchase programs and then buy shares at a low price.

Bargain repurchases and false signaling are synergetic because the presence of both forms of opportunism, rather than only one, reduces the information content of a repurchase program announcement. This, in turn, increases the gap between the post-announcement stock price and its actual value strengthening managers' ability to profit from both bargain repurchases and inflated-price sales. Because an announcement could mean either that the stock is underpriced or that managers are seeking to boost the price before unloading their shares, the market will bid the price up somewhat (more than it would in a world without bargain repurchases), but not that much (not as much as it would in a world without false signaling). Thus, whether the stock is initially underpriced, correctly priced, or overpriced, the post-announcement stock price is likely to deviate from the stock's actual value. This increases managers' ability to profit either from a bargain repurchase or by selling their shares at an inflated price. We now turn to consider the potential magnitude of these profits, and at whose expense they are made.

III. Managers' Profits, Public Investors' Losses

We have seen that managers opportunistically use low-price buybacks and misleading repurchase program announcements to enrich themselves at others' expense. This Part begins by estimating the potential magnitude of managers' profits from bargain repurchases: as much as several billion dollars annually.¹²¹ It then explains that the diversion of value through bargain repurchases and inflated-price sales directly and indirectly reduces public investors' returns. As a result, public shareholders earn less, on average, than they would in a world where managers do not use repurchases for informed trading and false signaling.

Throughout this Part, I assume for simplicity that managers' opportunistic use of repurchases does not affect aggregate shareholder value —the present value of cash flowing to the firm's shareholders over time. In other words, I assume that managerial value diversion is zero-sum: the cost it imposes on other market participants is limited to managers' gains. In the next Part, I will explain how managers' opportunistic use of repurchases is likely to distort payout decisions and thereby actually reduce aggregate shareholder value, further diminishing public shareholders' returns.

¹²¹ There are not enough data available to construct even a rough estimate of managers' profits from inflated-price sales following misleading repurchase program announcements.

A. Bargain Repurchase Profits

When managers use repurchases to buy stock at a bargain price, they enrich themselves at the expense of other market participants. As Part III. B will explain, the costs of managerial value diversion are ultimately borne by the firm's public investors. For now, however, I will set aside the issue of incidence to focus on the magnitude of managers' profits from bargain repurchases, which the analysis below suggests may be quite large.

Calculating the amount diverted by managers through a bargain repurchase is, at least conceptually, straightforward. First, one calculates the dollar volume of shares that managers indirectly acquire through the repurchase. Second, one determines the amount of underpricing – the difference between the repurchase price(s) and the stock's actual value. Third, one multiplies the volume of managers' indirect purchases by the amount of underpricing.

In practice, however, calculating managers' bargain repurchase profits is far from easy. Historically, firms were not required to report -- and did not voluntarily disclose -- how many shares they had repurchased or the prices at which these shares were acquired.¹²² Managerial ownership, which is more readily ascertainable, may change over the course of the buyback. Finally, and perhaps most importantly, it is extremely difficult – if not impossible – to ascertain the actual value of a particular firm's stock.

¹²² See *supra* Part I.C.1.

Nevertheless, it is possible to get a sense of managers' potential bargain repurchase profits from market-wide data. One can obtain a rough estimate of the amount of shares managers indirectly purchase each year by multiplying their percentage ownership of repurchasing firms by total repurchase volume. Recall that U.S. companies repurchase approximately \$200 billion of shares per year.¹²³ Managers of repurchasing firms own an average of 15% to 20% of these firms' equity.¹²⁴ If managers own 15% of every repurchasing firm's shares, and these firms collectively buy back \$200 billion of stock per year, managers would indirectly buy \$30 billion of shares annually through repurchases.

The difference between the repurchase price and the stock's actual value cannot be measured directly. But the underpricing gap can be estimated from the abnormal stock price returns that follow repurchase program announcements. Researchers studying repurchases interpret positive post-announcement abnormal returns to mean that the shares were underpriced at the time of the repurchase program announcement. Recent studies have found that firms announcing repurchase programs and then repurchasing shares within the first year exhibit cumulative abnormal returns of 20% to 25% in the four years following the announcement.¹²⁵ These results suggest that the actual value of these firms' stock was, on average, 20% to 25% higher than the pre-announcement trading price.

¹²³ See *supra* Part I.A.

¹²⁴ See McNally, *supra* note 75, at 59; Vafeas, *supra* note 6, at 112-13.

¹²⁵ See Chan et al., *supra* note 83, at 2-3.

Multiplying the dollar volume of managers' indirect purchases by these abnormal returns yields an estimate of managers' bargain repurchase profits. If managers indirectly buy \$30 billion of shares each year through repurchases, firms conduct their share repurchases at the time they announce the buyback, and all repurchasing firms experience the same post-announcement abnormal returns, managers would earn 20% to 25% abnormal profits on their \$30 billion per year of indirect share repurchases, or \$6 to \$7.5 billion annually.

Of course, firms announcing buyback programs do not acquire all the shares repurchased under the program immediately following the announcement. They typically repurchase shares over a several year period.¹²⁶ Because the stock prices of these firms exhibit abnormal price increases in each of the four years following the announcement, the last shares repurchased are not as underpriced as the first. However, most shares are repurchased within several months of the repurchase program announcement,¹²⁷ and most of the abnormal stock price returns occur after that period.¹²⁸ Thus, even though the stock is not all repurchased immediately after the buyback program announcement, managers could well be making several billion dollars of profits each year from bargain repurchases —the same

¹²⁶ See Stephens & Weisbach, *supra* note 6, at 323.

¹²⁷ *Id.*

¹²⁸ See Chan et al., *supra* note 83, at 27.

order of magnitude as the approximately \$5 billion they appear to be making each year using inside information in their personal trading.¹²⁹

Obviously, this very preliminary estimate is subject to many caveats. The analysis assumes that economists are properly measuring post-announcement abnormal returns. If abnormal returns are in fact lower, managers' bargain repurchase profits would be as well.¹³⁰ It also assumes that post-announcement abnormal returns and managerial ownership are identical across all repurchasing firms. If most repurchased shares (by dollar volume) are acquired by firms whose post-announcement abnormal returns or managerial ownership are relatively low, the actual amount diverted by managers may be lower. If, on the other hand, most repurchased shares are acquired by firms whose post-announcement abnormal returns and managerial ownership are relatively high, the amount diverted by managers may be even larger. The important point, however, is that the amount of value managers divert through bargain repurchases could be quite large—on the order of several billion dollars per year. And this amount does not include managers' profits from selling their shares at inflated prices following misleading repurchase announcements.

¹²⁹ See Jesse M. Fried, *Reducing the Profitability*, *supra* note 11, at 323.

¹³⁰ As I explained in the Introduction, for purposes of this Article I generally assume that stock demand curves are horizontal and that repurchases therefore cannot be used to exert price pressure. But if stock demand curves slope downward, enabling managers to boost the stock price by eliminating low-value shareholders, part of the observed post-announcement abnormal returns may be due to price pressure rather than to underpricing.

While managers' ability to profit from bargain repurchase might be thought of as a form of executive compensation, this form of compensation is unlikely to serve public shareholders' interest. Like managers' gains from personal insider trading, their profits from bargain repurchases are in large part a function of managers' access to inside information, not the amount of aggregate shareholder value they create. Indeed, as I explain in Part IV, bargain repurchases are likely to reduce aggregate shareholder value by distorting the firm's payout policy.

This form of compensation does, however, serve managers' interests. Bargain repurchases, like personal insider trading, provide managers with substantial value in a form that is likely to go unnoticed by shareholders.¹³¹ In any given firm, the profits are difficult to detect and measure. Needless to say, the profits never appear in any of the firm's publicly disclosed accounting statements or summary executive compensation tables.

To be sure, managers are not the only ones benefiting from bargain repurchases. Nonselling public shareholders also benefit by indirectly acquiring stock for a low price. Indeed, if managers owned 15% of each repurchasing firm's equity, these public shareholders collectively would capture 85% of bargain repurchase profits. On this assumption, if managers capture \$5 billion annually in bargain repurchase profits, nonselling public shareholders would capture at least \$25 billion. Thus, one might argue that bargain repurchases are not analogous to managers'

¹³¹ For a discussion of the importance to executives of camouflaging their compensation, see BEBCHUK & FRIED, *supra* note 41, at 67, 182.

trading personally on inside information: unlike the case of personal insider trading, managers conducting low-price buybacks create value not only for themselves but for other shareholders as well.

The problem, however, is that the bargain repurchase profits flowing to managers and other nonselling shareholders do not result from value creation but rather come at the expense of other parties. And, as I now turn to explain, these other parties are the public shareholders who buy and sell the firm's shares. Thus, if managers capture \$5 billion of bargain repurchase profits and nonselling public shareholders capture \$25 billion, other public shareholders must lose \$30 billion. On balance, public shareholders as a group would lose exactly the amount managers gain: \$5 billion.

B. The Bid-Ask Spread and the Cost to Public Shareholders

Managers' profits from bargain repurchases and sales at inflated prices following misleading repurchase announcements must come at someone's expense. I first explain in more detail how the costs of value diversion are borne directly by public shareholders or indirectly, through a higher bid-ask spread. I then present evidence indicating that bargain repurchases and inflated-price sales increase the bid-ask spread.

1. Theory

We saw in Part II that bargain repurchases transfer value from parties selling shares to the firm. Similarly, profits from the sale of shares at a price above their actual value come at the expense of those buying the stock. There are likely two types of parties transacting directly with the firm and its managers: public investors and market makers, the professionals who facilitate trading in a firm's stock by continuously offering to buy and sell shares.

Consider the situation in which the parties directly selling low-price stock to a repurchasing firm are public shareholders. In this situation, bargain repurchase profits come immediately at the expense of public investors. Similarly, when those buying inflated-price stock from managers are public shareholders, the cost of value diversion is borne, in the first instance, by public shareholders. In both cases, the transactions transfer value directly from public investors.

When the parties transacting with the repurchasing firm or managers are market makers, the analysis is more complicated. In these cases, bargain repurchases and inflated-price sales do not directly transfer value from public investors. Rather, they transfer value, in the first instance, from market makers. However, as we will see, the cost imposed on market makers by bargain repurchases and inflated-price sales is eventually passed on to public investors through a wider bid-ask spread. Thus, in the end, public shareholders bear the cost of value diversion through reduced liquidity.

We saw earlier that the bid-ask spread compensates the market maker for the various costs associated with market making and provides the market maker with

a profit.¹³² Repurchases may have liquidity-increasing effects – effects that tend to reduce the bid-ask spread. For example, by increasing trading volume, buybacks may lower market makers’ inventory costs, enabling them to narrow the spread, everything else being equal. Indeed, there is evidence that, in certain cases, repurchases do narrow the bid-ask spread.¹³³

But when repurchases are used for informed trading, and repurchase program announcements are used to allow managers to sell at inflated prices, there is likely to be an additional effect – called adverse selection -- that tends to increase market makers’ costs, and therefore the bid-ask spread. Adverse selection arises when market makers trade with better-informed parties, such as firms conducting bargain repurchases and managers selling at a high price. On average, market makers lose money trading with such parties. Market makers must widen their bid-ask spread to compensate for these losses. In turn, this increases public shareholders’ trading costs, reducing their net returns.¹³⁴ To the extent market makers trading with the firm and its managers pass on the cost of adverse selection to public investors through a higher bid-ask spread, public investors indirectly pay for the profits managers capture directly from market makers.¹³⁵

¹³² See *supra* Part I.B.4.

¹³³ See Cook et al., *supra* note 31, at 485-86. .

¹³⁴ See Barclay & Smith, *supra* note 6, at 66, 71 (concluding that in OMRs, the bid-ask spread widens, liquidity is reduced, and the firm suffers, on average, a reduction in equity value of 8% because managers use OMRs to transfer value from public shareholders).

¹³⁵ Market makers would bear any of the costs not passed along to public investors.

To be sure, public shareholders do not bear the entire cost of a higher bid-ask spread. When managers buy or sell shares themselves, or indirectly acquire these shares through a repurchase they directly bear part of this cost. And to the extent managers absorb part of this cost, their net profits from bargain repurchases and inflated-price sales decline. However, managers' personal and indirect trades are likely to represent only a tiny fraction of total trading volume. One study, for example, reports that in U.S. public firms manager trades make up only about 1.5% of total trading volume.¹³⁶ Accordingly, the cost of the higher bid-ask spread can be expected to fall mostly on public shareholders. Thus, either directly or indirectly, managers' profits from bargain repurchases and inflated-price sales come largely at public investors' expense.

¹³⁶ See Seyhun, *supra* note 71, at 168.

2. Evidence

There are several studies on the effect of repurchases on the bid-ask spread. These studies' findings are consistent with bargain repurchases and inflated-price sales increasing the bid-ask spread and reducing public shareholders' net returns.

As Part III.B.1. explained, repurchases can influence the bid-ask spread through a variety of mechanisms. Some of repurchases' effects tend to increase liquidity. For example, by increasing trading volume, a repurchase can lower market makers' inventory costs, allowing them to narrow the bid-ask spread everything else being equal. To the extent bargain repurchases create adverse selection, however, that effect will tend to increase the bid-ask spread.

Because non-bargain repurchases do not give rise to adverse selection, one would expect them to have only liquidity-increasing effects. Accordingly, their use can be expected to reduce the bid-ask spread. Indeed, there is evidence consistent with non-bargain repurchases reducing the bid-ask spread.¹³⁷

¹³⁷ See Cook et al., *supra* note 31, at 485-86 (finding that bid-ask spreads decreased when certain firms repurchased shares). The study looks at repurchase transactions that were disclosed voluntarily by a small group of US firms. *Id.*, at 463, 464-66. The researchers solicited repurchase data for 478 firms identified as announcing repurchase programs between March 10, 1993 and March 4, 1994. Only sixty-eight responded, and of those, four indicated that they were unable or unwilling to provide the data, leaving only sixty-four firms in the sample. Managers engaging in informed trading are unlikely to disclose trading data, even to researchers, because of the risk (however small) of insider trading liability. Accordingly, the 15% or so of the firms that responded positively to requests for such information are likely to be firms that were not using repurchases to engage in informed trading.

However, a priori, one cannot make the opposite prediction about bargain repurchases. Although bargain repurchases' adverse selection effect tends to widen the bid-ask spread, everything else being equal, these repurchases are also likely to reduce market makers' inventory costs, which could have a countervailing effect. If the inventory-cost effect is sufficiently strong, even bargain repurchases might, like non-bargain repurchases, reduce the bid-ask spread. (They would, of course, not reduce the bid-ask spread by as much as non-bargain repurchases.) Accordingly, one could not conclude from a finding that bargain repurchases reduce the bid-ask spread that there is no adverse selection effect on the bid-ask spread; the bid-ask spread – and shareholders' trading costs -- could have been even lower absent the insider trading effect of bargain repurchases.

Similarly, if repurchases in aggregate -- which consist of both bargain and non-bargain repurchases -- tend to reduce the bid-ask spread, one could not conclude that bargain repurchases do not give rise to an adverse selection effect. Such a finding could indicate that the liquidity-reducing adverse selection effect of bargain repurchases is overwhelmed by the inventory-cost (and any other liquidity-increasing) effects of both bargain and non-bargain repurchases. Absent adverse selection, the effect of aggregate repurchases on the bid-ask spread would have been even more positive.

Nevertheless, a finding that repurchases in aggregate do not reduce the bid-ask spread would indicate not only that bargain repurchases create an adverse selection effect but that this spread-widening effect offsets the inventory-cost (and possible other liquidity boosting) effects of both bargain and non-bargain repurchases. And a finding that repurchases in the aggregate increase the bid-ask

spread would mean that bargain repurchases' adverse selection effect actually overwhelms the liquidity boosting effects of both bargain and non-bargain repurchases. Thus, while a finding that aggregate repurchases narrow the bid-ask spread does not rule out the possibility of adverse selection, a finding that aggregate repurchases increase the bid-ask spread strongly suggests that there is not only an adverse selection effect but that the effect is extremely strong.

In fact, all of the studies exploring the effect of repurchase activity indicate that, in the aggregate, the adverse selection effect of bargain repurchases either offsets or overwhelms any liquidity-boosting effects of both bargain and non-bargain repurchases. Three studies focus on changes in the bid-ask spread in the period following repurchase program announcements by U.S. firms, when presumably many of the announcing firms have begun repurchasing shares. Two studies find no change in the bid-ask spread,¹³⁸ suggesting that the adverse selection effect of bargain repurchases offsets the potential liquidity-boosting effects of bargain and non-bargain repurchases; one finds an increase in the bid-ask spread,¹³⁹ suggesting that the adverse selection effect of bargain repurchases outweighs the aggregate liquidity-increasing effects of bargain and non-bargain repurchases.

¹³⁸ See Singh et al., *supra* note 46 (examining 181 repurchase announcements during the period between 1983 and 1990 and finding that the bid-ask spread did not change when firms announced repurchases); see also James M. Miller & John M. McConnell, *Open-Market Share Repurchase Programs and Bid-Ask Spreads on the NYSE: Implications for Corporate Payout Policy*, 30 J. FIN. QUANTITATIVE ANALYSIS 365, 367 (1995)(similar).

¹³⁹ See Barclay & Smith, *supra* note 6, at 66, 71 (finding that the bid-ask spread widened, on average, following 244 repurchase announcements by 198 NYSE-listed firms between 1970 and 1978).

Because U.S. firms are not required to report their daily repurchase activity, there is little evidence on how actual repurchase activity in U.S. market affects the bid-ask spread.¹⁴⁰ However, evidence from two foreign markets where all firms must report daily repurchases suggests that the adverse selection effect of bargain repurchases more than offsets any liquidity-enhancing benefits bargain and non-bargain repurchases might offer. A study of repurchases in Hong Kong found that the bid-ask spread widens by an average of 10% on the days that firms repurchase shares.¹⁴¹ Similarly, a recent study of repurchases on the Paris Stock Exchange found that repurchase activity widens bid-ask spreads by 6 to 15%.¹⁴² These two studies indicate that not only do bargain repurchases generate an adverse selection effect but that the effect is large enough to swamp the otherwise liquidity-enhancing effects of bargain and non-bargain repurchases. In short, all of the empirical studies point to the insider trading effect of bargain repurchases increasing the bid-ask spread, thereby shifting to public shareholders market makers' adverse selection costs. We now turn to consider the additional costs that bargain repurchases can impose on public shareholders.

¹⁴⁰ The one U.S. study that looks at actual repurchases is the Cook et. al. study, which relies on voluntary reporting and is therefore not a random sample of repurchasing firms. See Cook et al., *supra* note 31, at 485-86.

¹⁴¹ Trading depth (the number of shares offered or sought at the ask and bid prices, respectively) also drops significantly on the day of the repurchase. Brockman & Chung, *supra* note 84, at 441.

¹⁴² See Edith Ginglinger & Jacques Hamon, Actual Share Repurchases and Corporate Liquidity 19 (Sept. 2003) (working paper), available at <http://ssrn.com/abstract=557233>.

IV. Additional Costs: Payout Distortions

We have seen that managers can and do use bargain repurchases and misleading repurchase announcements to systematically transfer value from public shareholders. If such opportunistic behavior did not affect aggregate shareholder value, it would merely effect a zero-sum wealth transfer. Public shareholders' losses would equal insiders' gains – as much as several billion dollars annually from bargain repurchases alone.

However, as this Part shows, the use of low-price repurchases is likely to distort corporate payout and investment decisions, substantially reducing aggregate shareholder value and imposing additional costs on public shareholders. In other words, every \$1 billion of managerial profits is likely to cost public shareholders much more than \$1 billion.

Managers' ability to use repurchases for informed trading may lead to three types of payout decisions. Part IV. A describes how the prospect of future bargain repurchases can cause managers to hoard cash they should distribute to shareholders. Part IV. B shows that managers' ability to use repurchases for informed trading can also lead to cash squandering and underinvestment. Part IV. C ex-

plains that managers may also have an incentive to use repurchases when dividends would be more efficient.

I conclude in Part IV. D by considering two possible arguments that bargain repurchases might improve payout policy and actually increase aggregate shareholder value: (1) that bargain repurchases may mitigate managers' tendency to retain too much cash; and (2) that share repurchase announcements' positive effects on stock prices suggest that bargain repurchases benefit all shareholders. I show that managers' use of repurchases for informed trading is unlikely to benefit shareholders by reducing excess cash retention, and that bargain repurchases' effects cannot be inferred from the market's average reaction to share repurchase announcements. Indeed, I show that repurchase announcements could boost the stock price even in a hypothetical world where all repurchases reduce aggregate shareholder value.

A. Cash Hoarding

I have shown that a repurchase is economically equivalent to non-selling shareholders acquiring stock from sellers and the firm then issuing a dividend.¹⁴³ Thus, like a dividend, a repurchase moves cash from firm projects to investments outside the firm. But unlike a dividend, a repurchase also transfers value between sellers and non-selling shareholders whenever the stock is mispriced. If the stock is overpriced, the repurchase transfers value to sellers from non-selling shareholders.

¹⁴³ See Part II.A.1.

If the stock is underpriced, the repurchase transfers value from sellers to non-selling shareholders.

From an aggregate shareholder perspective, a firm should distribute cash, whether through a repurchase or a dividend, only if the cash can generate higher returns outside the firm. If the firm uses a repurchase, any value-transferring effect should be disregarded. It merely shifts wealth from one set of shareholders to another without increasing value for shareholders as a group.

However, in making payout decisions, managers are likely to focus not on aggregate shareholder value but rather on what benefits them personally. And managers can profit by retaining their shares and having the firm buy stock at a low price. Thus, managers with inside information have an incentive to manipulate the timing and amount of cash distributions, causing payout policy to deviate from what would maximize aggregate shareholder value.

The first potential distortion to payout policy is that the prospect of future bargain repurchase opportunities might lead managers to retain rather than distribute excess cash. By hoarding cash, managers give themselves the ability to repurchase shares in the future should the stock become underpriced. Thus, in deciding whether to pay out cash now, managers will take into account the possible private benefit of retaining the cash for future bargain repurchases. The prospect of such opportunities, in turn, can bias managers toward retaining excess cash rather than paying it out.

To be sure, the anticipated private benefits from future bargain repurchases may not always be sufficiently large to induce managers to retain cash. If the cash would generate very low returns trapped in the firm, the prospects of underpricing

are not great, or the returns from investing the cash outside the firm are sufficiently high, managers will distribute the cash even though it reduces their ability to later engage in bargain repurchases. However, on the margin, retaining the ability to buy the stock at a bargain price may cause managers to inefficiently hoard cash.

A simple numerical example illustrates this point. Suppose that managers own 20% of ABC Corporation's shares. ABC has \$100 million in idle cash that earns the firm 5% annually in a money market account. If the cash were distributed, shareholders could invest it in projects that would earn 10% per year. The managers must decide whether to distribute the \$100 million on January 1 or at the end of the year, on December 31. Shareholders would enjoy an aggregate benefit of \$5 million (\$10 million less \$5 million) if the money were distributed on January 1. Suppose further that on December 31 of that year, the stock might be underpriced or overpriced. If ABC were to keep the \$100 million in cash, assume there would be a 40% chance that it could buy back \$100 million of stock that is actually worth \$125 million.

For ABC shareholders as a group, ABC's decision to buy \$125 million of stock from sellers for \$100 million has an expected value of \$0. To the extent that the sellers are the firm's own investors, the bargain repurchase represents a mere transfer of value among shareholders. To the extent that the sellers are market makers, they will raise their bid-ask spread to compensate themselves for the expected loss from selling at a low price to the firm, passing the costs on to the firm's shareholders when they sell or buy more stock. Therefore, from an aggregate

shareholder perspective, the value-maximizing strategy would be to distribute the cash on January 1 so that it could earn shareholders an extra \$5 million.

Now consider managers' incentives. If ABC were to issue a \$100 million dividend on January 1, managers would receive \$20 million (20% of \$100 million) and invest it at 10% during the year, leaving them with \$22 million on December 31. If ABC were to retain the cash, the firm would earn \$5 million in interest on the funds, of which managers' pro rata share would be \$1 million. But, with 40% probability, managers and remaining shareholders could use the \$100 million at the end of the year to purchase \$125 million in stock from sellers, yielding an additional \$25 million (20% of \$125 million) for managers. With 60% probability, the firm would simply retain the \$100 million, of which managers' pro rata share would be \$20 million. Thus, the expected value to managers of retaining the \$100 million of cash is \$23 million ($\$1 \text{ million} + 40\% \times \$25 \text{ million} + 60\% \times \20 million), which exceeds by \$1 million the value to managers of distributing the cash on January 1.¹⁴⁴

¹⁴⁴ If capital markets were perfect, this payout distortion would not arise. With frictionless capital markets, ABC's managers could distribute the \$100 million on January 1, enabling shareholders to earn higher returns on the cash outside the firm, and then—if the stock were underpriced—borrow \$100 million on December 31 to fund a repurchase. However, as economists have long understood, capital markets do not work perfectly. Borrowing takes time, involves transaction costs, and is not always feasible. For example, loan covenants with existing lenders might bar ABC from borrowing an additional \$100 million. Risk-averse managers fearful of financial distress may prefer not to increase the firm's debt and interest burden. Thus, managers hoping to engage in informed trading with stock buybacks cannot always expect to borrow the necessary funds should a bargain repurchase opportunity arise. As a result, they will have an incentive to retain excess cash even when distributing the cash to shareholders would increase aggregate shareholder value.

This example also illustrates how the use of bargain repurchases imposes costs on shareholders beyond the value transferred to managers. The repurchase itself transfers \$25 million from sellers to managers and other remaining shareholders, of which managers capture 20%, or \$5 million. Thus, the repurchase directly or indirectly transfers \$5 million from public shareholders to managers. However, managers' ability to engage in bargain repurchases costs public shareholders far more than \$5 million. The prospect of such a repurchase causes managers to retain \$100 million that could be earning \$5 million more outside of the firm. Public shareholders own 80% of the firm and, accordingly, bear an opportunity cost of \$4 million. Thus, if managers engage in a bargain repurchase, the total cost to public shareholders is \$9 million, almost twice as much as the amount of value transferred to managers through the repurchase.

B. Cash Squandering and Underinvestment

Just as future bargain repurchases can cause managers to retain cash that, from an aggregate shareholder perspective, should be distributed immediately, the possibility of immediate profits from informed repurchasing can cause managers to distribute cash that should be invested in the firm's own projects. Thus, the second problem with linking payout policy to the stock price is that it can encourage managers to "squander cash"—that is, to pay out too much.

Again, in making payout decisions, managers focus on what makes them better off, not on what maximizes the aggregate shareholder value. In deciding whether

to pay out excess cash, managers consider whether their private information indicates that the stock is underpriced. If so, this may lead them to buy back stock even when the cash would generate more value for shareholders as a group if left in the firm.

Consider a variation on the previous example. Again, suppose that managers own 20% of ABC's shares; ABC has \$100 million of cash; and managers must decide whether to distribute the \$100 million on January 1 or at the end of the year, on December 31. Now suppose, however, that if the money remains in the firm ABC could invest it in projects that would earn 10% during the year. If the cash were distributed on January 1, shareholders could earn a return of 5% outside the firm. Retaining the cash would thus increase shareholder value by \$5 million. Suppose further that on January 1, the stock is underpriced: with the \$100 million ABC could buy back stock worth \$125 million.

Again, for shareholders as a group, the ability of the firm to buy \$125 million of stock from sellers for \$100 million has an expected value of \$0. To the extent that the sellers are the firm's own investors, the bargain repurchase represents a mere transfer of value among shareholders. To the extent the sellers are market makers, they will raise their bid-ask spread to compensate themselves for the expected loss from selling at a low price to the firm, passing the cost onto the firm's shareholders. From an aggregate shareholder perspective, the value-maximizing strategy would be to retain the cash and invest it in ABC's projects to earn shareholders an extra \$5 million.

Consider managers' incentives. If on January 1, ABC repurchases for \$100 million stock worth \$125 million, managers reap \$5 million of profit (20% of \$25 mil-

lion). If ABC retains the cash, the firm earns a return of \$10 million on the funds, of which managers' pro rata share is \$2 million. Thus, it is in managers' interest to repurchase the stock even though—from an aggregate shareholder perspective—it is desirable for ABC to retain the cash.¹⁴⁵

As in the case of cash hoarding, the cost to public shareholders from cash squandering exceeds the amount of value transferred to managers. Returning to the example, ABC's repurchase transfers \$5 million from public shareholders to managers. But the cost to shareholders as a group (including managers) of distributing cash prematurely is \$5 million. Of this \$5 million cost, public shareholders bear 80% (or \$4 million). Thus, managers' \$5 million of insider trading profits cost public shareholders a total of \$9 million.

There is evidence consistent with at least some repurchases squandering cash. After repurchases, operating profits tend to decline. Moreover, the operating profits of firms that are more likely to be engaged in information-based trading—that is, those that repurchase infrequently, have greater information asymmetry, and have more managerial ownership—tend to decline more than others.¹⁴⁶ Economists have found it “surprising” that there is no evidence of improved operating

¹⁴⁵ Of course, a firm might be able to borrow money to fund the repurchase, which would ameliorate the problem of distributing cash that would be better invested in the corporation. But as I have explained, borrowing might be difficult, impossible, or take so much time that the underpricing might disappear. Even if borrowing were possible, managers might prefer not to increase the firm's debt burden and the likelihood of financial distress, which are sometimes personally costly for them.

¹⁴⁶ See Jagannathan & Stephens, *supra* note 6, at 83.

performance following repurchases.¹⁴⁷ The analysis I offer suggests that this could be the consequence of cash squandering.

C. Distorted Form of Payout

The use of repurchases for informed trading can distort not only the amount and timing of cash distributions, but also the form these payouts take. In particular, managers may choose to use repurchases to distribute cash rather than dividends, even when dividends would be more efficient.

As we saw in Part I.B, repurchases may sometimes offer advantages over dividends. Repurchases may be more tax-efficient for shareholders. For small, non-recurring payouts, a buyback may also involve lower transactions than dividends. Repurchases, unlike dividends, can also be used to acquire shares for employee stock option programs.

However, the continuing widespread use of dividends suggests that dividends are often more efficient than repurchases. Managers are biased toward repurchases because repurchases can provide private benefits that dividends cannot, such as informed trading profits.¹⁴⁸ Thus, managers will choose dividends over

¹⁴⁷ *See id.*

¹⁴⁸ Repurchases are likely to provide managers other private benefits. If the demand curve for shares slopes downward, managers can use repurchases to boost the stock price before selling their own shares. And, because of the structure of managers' options, the distribution of cash through repurchases tends to increase the value of their equity compensation while

repurchases only when dividends' are substantially more efficient than repurchases. The fact that firms continue to use dividends—indeed, most firms that repurchase shares also issue dividends¹⁴⁹—suggests that, at least in some cases, the efficiency advantages of dividends may be substantial.

While a full discussion of dividends' possible advantages is beyond the scope of this Article, it is worth noting one such advantage: that, particularly for larger payouts, dividends are likely to involve significantly lower transaction costs than repurchases. As noted in Part I.B.2, when a firm distributes cash through a repurchase, it incurs brokerage fees. So do selling shareholders. If the repurchase is mediated through a market maker, the firm and selling shareholders also bear the cost of the bid-ask spread. These transaction costs tend to increase with the dollar amount of the payout.

In contrast, the transaction costs associated with dividends are largely small and fixed. Firms must compute the amount to be paid to each shareholder and mail out the checks. These costs, which are modest, do not increase with the dollar amount distributed. In fact, employees of the investor relations and shareholder services departments of a number of publicly traded firms report that the cost of issuing dividends is too small to track. For large payouts, then, dividends are likely to involve lower per-dollar transaction costs than repurchases.¹⁵⁰

dividends reduce it. See WEISBENNER, *supra* note 6, at 9-10; Fenn & Liang, *supra* note 6; Jolls, *supra* note 6, at 22-24.

¹⁴⁹ See Grullon & Michaely, *supra* note 1.

¹⁵⁰ Some economists have argued that dividends impose transaction costs on shareholders by forcing non-liquidity seeking shareholders to reinvest the cash in stock of either that firm

To be sure, there may well be cases where a dividend is more transaction-cost efficient but a repurchase still makes shareholders better off because of one of its other advantages. The important point, however, is that the widespread use of dividends suggests that, in many cases, dividends are a more efficient payout form than repurchases. And, to the extent managers can profit from bargain repurchases, they may decide to use repurchases even when dividends are more efficient. In such a case, managers' ability to engage in bargain repurchases may lead not only to cash squandering or cash hoarding, but also to the use of an inefficient payout form.

D. Could Bargain Repurchases Actually Improve Payout Policy?

We now turn to consider two possible arguments that bargain repurchases might in fact improve payout policy and increase aggregate shareholder value: (1) that bargain repurchases may mitigate managers' tendency to retain excess cash; and (2) that share repurchase announcements' positive effect on stock prices suggests that bargain repurchases benefit all shareholders. As we will see, however,

or another firm. See Edwin J. Elton & Martin J. Gruber, *The Effect of Share Repurchase on the Value of the Firm*, 23 J. Fin. 135 (1968). Distributing cash through a repurchase instead of a dividend might reduce the transaction costs borne by this group of shareholders. However, institutional investors (such as mutual funds) constantly distribute cash to and receive cash from investors. Thus, the marginal transaction costs of processing cash dividends is likely to be trivial. The widespread availability of dividend reinvestment programs also makes it easy for shareholders who do not want liquidity to avoid the transaction costs associated with reinvesting unwanted cash.

managers' use of repurchases for informed trading is unlikely to benefit shareholders by reducing excess cash retention, and bargain repurchases' effects cannot be inferred from the market's average reaction to share repurchase announcements. Indeed, I show that repurchase announcements could boost the stock price even in a hypothetical world where all repurchases reduce aggregate shareholder value.

1. Inducing the Distribution of Excess Cash

Managers generally have a strong incentive to retain excess cash—cash not needed to fund any desirable investment opportunities the firm might have—rather than distribute it to shareholders.¹⁵¹ The cash enables them to expand their corporate empire and thereby increase their perks and prestige. The funds also provide a cushion in the event of a downturn, reducing the cost to managers of performing poorly.

Managers' ability to profit from bargain repurchases might counteract their tendency to retain excess cash by "rewarding" them for distributing it. Distributing excess cash imposes a cost on managers by reducing their ability to build empires and cushion themselves from poor performance. But in some cases managers' profits from low-price repurchases might be high enough to offset these costs, motivating managers to distribute the cash.

One cannot rule out the possibility that, at least in some cases, bargain repurchases reduce excessive cash retention. However, both theory and empirical data suggest that bargain repurchases are unlikely to substantially mitigate this problem market-wide. As a matter of theory, tying payout policy to managers' inside information can lead both to cash squandering—the problem of over-payout—and

¹⁵¹ See generally Michael C. Jensen, Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers, 76 Papers and Proceedings of the Ninety-Eighth Annual Meeting of the American Economic Association 323-24 (May 1986).

to cash hoarding—the problem of under-payout. To the extent that the prospect of future bargain repurchase opportunities leads to cash hoarding, managers’ ability to engage in such repurchases does not mitigate the problem of free cash retention. Indeed, it exacerbates the problem.

Empirically, there is little evidence indicating that the increasing use of repurchases over the last twenty years (many of which have been information-driven) has led to a reduction in excess cash holdings. If repurchases caused managers to distribute more excess cash than dividends, one would expect payout rates to have increased as managers substituted repurchases for dividends. However, aggregate payout data suggests the increasing use of share repurchases is not boosting payouts. Between 1974 and 1998, the average repurchase-payout to earnings ratio across firms—the amount of cash distributed through share repurchases divided by earnings—increased from 3.7% to 13.6%, and the average dividend-payout to earnings ratio declined from 22.3% to 13.8%.¹⁵² Yet the average (total) payout to earnings ratio for publicly traded U.S. firms remained fairly constant during that period, hovering around 26% to 28%.¹⁵³ Thus, the data do not appear to indicate that bargain repurchases have reduced managers’ incentive to retain too much cash.¹⁵⁴ On balance, then, information-driven repurchases are likely to worsen, rather than improve, corporate payout policy.

¹⁵² See Grullon & Ikenberry, *supra* note 3, at 41.

¹⁵³ *Id.*

¹⁵⁴ To be sure, the fact that the payout to earnings ratio has remained stable for twenty-five years does not necessarily mean that managers’ tendency to hoard excess cash has remained

2. Bargain Repurchases' Desirability: What Can Announcement Returns Tell Us?

I have explained how the use of bargain repurchases not only systematically diverts value from public shareholders, but is also likely to distort managers' payout and investment decisions, shrinking the size of the pie. One might wonder how this finding can be reconciled with the fact that, on average, repurchase program announcements boost the stock price, albeit only slightly. Below, I explain why the market's reaction to such announcements provides little information on bargain repurchases' desirability. Indeed, I show that stock prices could rise following repurchase program announcements even in a world where all buybacks are known to be bargain repurchases that destroy large amounts of aggregate shareholder value.

The market's slightly positive reaction to repurchase program announcements sheds little light on the way bargain repurchases and inflated-price sales affect aggregate shareholder value for three reasons. First, it is unlikely that all

unchanged. During this period, managers may have been able to find more productive uses for their firms' cash. Thus, the amount of excess cash at managers' disposal might have declined even as payout rates stayed constant, which would be consistent with repurchases boosting payouts of excess cash. However, the opposite story could be true. Excess cash may have increased over time, in which case constant payout rates would be consistent with repurchases reducing payouts. The important point is that aggregate payout data do not provide any prima facie evidence that the increasing use of repurchases has reduced the problem of excessive cash retention.

repurchase program announcements herald bargain repurchases (or inflated-price sales). As I indicated in the Introduction, many repurchases may well be shareholder-serving. Accordingly, in any given sample of repurchase announcements, there are likely to be at least some shareholder-serving repurchases. The fact that repurchase program announcements are greeted positively on average could at most mean that the expected benefits of shareholder-serving repurchases slightly outweigh the costs of bargain repurchases (and managers' inflated-price sales that might follow these announcements). It certainly does not mean that market participants believe that every repurchase benefits shareholders. Thus, the market's slightly positive average reaction to repurchase program announcements is not inconsistent with bargain repurchases imposing costs on shareholders -- or even with those costs being quite large.

Second, managers' use of information-based repurchases can give rise to costs, such as cash hoarding, that are incurred even before a repurchase occurs and thus are not reflected in the market's reaction to a repurchase program announcement. As we saw in Part III. A, managers who believe their stock is likely to become underpriced may have an incentive to retain cash that should, from an aggregate shareholder perspective, be distributed immediately to shareholders. The cost to shareholders of this cash hoarding is incurred before any repurchase is actually announced. Should the firm announce a repurchase program, this ex ante cost would therefore not be reflected in the market's reaction to the announcement. Indeed, the higher this cash-hoarding cost is, the stronger the stock market's reaction to the announcement will be; the announcement will signal not only that the stock is underpriced, but also that the excess cash that has been sitting idly in the firm

will finally be distributed to investors. Paradoxically, then, the greater the cost that cash-hoarding imposes on shareholders, the more positive the stock market's reaction to a repurchase announcement will be. As a result, the price reaction to the announcement will fail to reflect the overall effect of bargain repurchases on aggregate shareholder value. Thus even in a world consisting only of bargain repurchases, one could not infer from the stock market's slightly positive reaction to repurchase program announcements that managers' ability to conduct these repurchases benefits shareholders.

Third, even if share repurchases did not give rise to any ex ante costs such as cash hoarding, the market's slightly positive reaction to share repurchase announcements would not mean that share repurchases, even on average, increase aggregate shareholder value. In fact, the market's positive reaction could be consistent with all share repurchases destroying aggregate shareholder value. To see this, consider a world in which all announced repurchases are bargain repurchases that cause managers to squander cash that, from an aggregate shareholder perspective, should be retained by the firm. Even in such a world, a share repurchase announcement could cause the stock price to increase. The reason is as follows: the stock market's reaction to a repurchase program announcement reflects at least two things: (1) the arrival of new information indicating that the company is likely worth more than was previously believed; and (2) the perceived effect of the announced repurchase on the company's value. As long as the cash-squandering repurchase destroys less value than the amount of underpricing revealed by the announcement, the stock market's reaction will be positive. Thus, one cannot infer

from the price-boosting effect of repurchase announcements that they increase value.

To see how the announcement of a value-destroying repurchase could boost the stock price, consider the following example. Suppose XYZ Corporation's shares are worth either \$8 or \$12, with equal probability. Assume that if the stock is worth \$12, there is a 30% chance that XYZ will announce a repurchase tomorrow and then repurchase shares. If the stock is worth \$8, there is a 10% chance that XYZ will announce a repurchase tomorrow to boost the stock price so that managers can sell their shares. Finally, suppose that if XYZ actually conducts a repurchase, it will reduce the value of each share from \$12 to \$11 by squandering needed cash.

If the firm announces a repurchase, the market will infer that the expected value of the stock is \$10.25.¹⁵⁵ If the firm fails to announce a repurchase, the stock price will drop to \$9.75.¹⁵⁶ There is an 80% likelihood of no repurchase announcement and a 20% likelihood of a repurchase announcement.¹⁵⁷ The stock will therefore trade at \$9.85 per share today. As a result, the stock price will rise \$0.40—from \$9.85 per share to \$10.25 per share—if the repurchase is announced

¹⁵⁵ The expected value of XYZ's stock, given the repurchase announcement, is $(0.30 \times \$11 + 0.10 \times \$8) / (0.30 + 0.10)$.

¹⁵⁶ The expected value of ABC's stock, given the lack of a repurchase announcement, is $(0.70 \times \$12 + 0.90 \times \$8) / (0.70 + 0.90)$.

¹⁵⁷ The likelihood of a repurchase announcement is $(0.50)(0.30) + (0.50)(0.10)$, or 20%. The likelihood of no announcement is therefore 80%.

tomorrow. This increase occurs even though the market understands that, should the firm repurchase shares, per share value will decrease from \$12 to \$11.

I am not claiming that all (or even most) repurchases reduce aggregate shareholder value; rather, my claim is that when repurchases can be used to buy stock at a low price, managers may have an incentive to squander cash, and that, even in a hypothetical world in which all repurchases squander cash and thus reduce aggregate shareholder value, repurchase announcements might nevertheless elicit a positive reaction from investors. Thus, the increase in stock price that typically follows a repurchase announcement does not demonstrate that bargain repurchases (or repurchases on average) actually increase aggregate shareholder value.

V. Pre-Repurchase Disclosure

We have seen that managers can and do use bargain repurchases and misleading repurchase announcements to enrich themselves at other investors' expense, which can lead to distorted payout decisions and lower aggregate shareholder value. This Part puts forward a new approach to regulating repurchases that would substantially diminish managers' ability to profit from bargain repurchases and misleading repurchase announcements and thereby improve corporate payout policy. Part V. A describes the proposed rule: requiring firms to disclose the exact details of repurchase orders before their brokers execute them. Part V. B explains how pre-repurchase disclosure would make it more difficult for managers to use repurchases for informed trading and misleading repurchase announcement to artificially boost the stock price before selling their shares. As Part V. C explains, the potential costs of the proposed rule are minimal. Pre-repurchase disclosure would neither undermine the potential benefits of share repurchases nor discourage managers from undertaking shareholder-serving buybacks.

A. The Proposed Rule

Firms are currently required to announce intended repurchases only when their boards approve a buyback program.¹⁵⁸ These announcements are often vague, and never commit the firm to a specific course of action. Firms sometimes indicate the number of shares targeted, the approximate amount to be spent on repurchases, or the anticipated length of the repurchase program. But these details—if they are offered at all—do not commit managers to repurchase a single share, let alone indicate the price at which shares would be acquired. Indeed, many firms announce a repurchase and then fail to buy back a single share.¹⁵⁹

My proposal would require managers to provide detailed information to the public about repurchases before they conduct them. In particular, managers would announce the specific purchase instructions given to their firm's broker before the broker executes the buy order. For example, a firm wishing to instruct its broker "to buy up to 200,000 shares over the next five trading days at a price of \$25 or better" would disclose that exact instruction to the market before the broker could begin buying shares. In addition, firms would be required to file pre-repurchase

¹⁵⁸ See *supra* Part I.C.1.

¹⁵⁹ See *supra* Part I.C.1

announcements with the SEC's publicly-accessible Electronic Data Gathering and Retrieval System (EDGAR).

When announcing a repurchase order, managers could include any other information that they wish to communicate to the market. For example, managers could announce that the repurchase is intended to acquire shares for employee stock option programs. To the extent market participants consider this additional information credible, they might respond differently to the announced order. Managers could also use the required pre-repurchase announcement to make binding commitments about future buybacks. For example, managers could indicate that they will not repurchase more than a certain amount of shares over a specified period.

As Part V. B explains in greater detail, market participants would use the disclosed repurchase orders, along with any other information provided by the firm, to update their assessment of the stock's actual value, taking into account the firm's repurchase history and financial condition, as well as managers' credibility and their contemporaneous and previous personal trading. To the extent a disclosure signals the stock is underpriced, market participants would bid up the price of the stock before the repurchase order is executed. This adjustment would, in turn, reduce managers' bargain repurchase profits.

Enforcement of the rule would be straightforward. Firms would be required to report each completed transaction on the SEC's EDGAR system, including the price at which the repurchase was executed and the order with which it was associated. Substantial discrepancies between trades and announced orders would give rise to penalties.

The information, if any, transmitted by a pre-repurchase announcement may not be instantly incorporated into the stock price. Disclosure should thus be made at least several days in advance of trade execution. The more efficient the market is at reacting to this type of information, the shorter the notice period need be, everything else being equal. As I now turn to explain, the market's reaction to repurchase orders will, over time, reduce the costs to public shareholders of bargain repurchases and inflated-price sales following misleading repurchase announcements.

B. Benefits of Pre-Repurchase Disclosure

This Section describes the benefits of pre-repurchase disclosure. It first shows that pre-repurchase disclosure, by diminishing managers' ability to enrich themselves through a bargain repurchase, decreases their profits from each bargain repurchase, reduces the number of bargain repurchases, and makes it more difficult for them to gain from false signaling. It then explains how these effects reduce managerial value diversion as well as improve payout decisions, increasing aggregate shareholder value and benefiting public investors.

1. Reducing Managers' Profits

The analysis of the proposed rule's effects on managers' profits from informed trading and false signaling proceeds in three steps. First, I show that pre-repurchase disclosure reduces managers' profits from any bargain repurchase they conduct. Thus, pre-repurchase disclosure would reduce managers' profits even if the volume of bargain repurchases remains constant. Second, I explain that, as the expected profitability of bargain repurchases declines, managers' incentives to use repurchases for informed trading weaken, and the frequency of such repurchases drops. Pre-repurchase disclosure thus curbs managers' bargain repurchase profits by both decreasing per-repurchase profits and lowering the total number of such

repurchases. Third, I show that, as the frequency of bargain repurchases drops, misleading repurchase announcements have a smaller effect on the stock price, reducing managers' profits from selling their own shares at an inflated price.

a. Profits Per Bargain Repurchase

As I explain below in more detail, pre-repurchase disclosure reduces managers' expected profit from a contemplated bargain repurchase in two ways. First, the rule increases the price at which the firm buys back shares during the bargain repurchase, reducing the immediate profit from the buyback. Second, if managers conduct the bargain repurchase, market participants are more likely to believe that the firm's future buybacks are also information-driven, even when they are not. Thus, if managers conduct the contemplated low-price repurchase, they are likely to face larger price increases in future buybacks – both those that are information-driven and those that are not. These expected price adjustments – both current and future – reduce the anticipated profits from the contemplated bargain repurchase.

Pre-repurchase disclosure affects the repurchase price by communicating information about the likely value of the stock to the market before the repurchase is executed. To the extent market participants believe that the firm is attempting to buy back stock at a bargain price, they will bid up the price of the stock, forcing the firm to complete its repurchase at a less favorable price.

Before examining in more detail how a pre-repurchase announcement is likely to be interpreted by the market, it is worth considering how investors currently re-

spond to news about managers' own trades. Market participants know that managers often have inside information bearing on the value of their firm's shares, and attempt to infer this information by studying managers' behavior. For example, investors closely follow managers' post-trading disclosures made pursuant to Section 16(a) of the Securities Exchange Act of 1934, which currently requires corporate insiders to report their trades by the end of the second business day after the trade date.¹⁶⁰ Heavy net buying is often considered an indication that the stock is undervalued; heavy net selling is often interpreted to mean the opposite. Among the factors investors take into account in "decoding" a particular trade are the amount of the trade, the size of the trade relative to the insider's holdings and previous trades, the degree to which the insider's previous trades correlated with subsequent stock price movements, and recent trades by other company insiders.¹⁶¹

In the same manner that market participants follow and respond to corporate insiders' post-trading reports, investors and market makers will focus on a firm's pre-repurchase announcements and attempt to interpret these announcements in light of the firm's repurchase history and other relevant information. Has the firm tended to repurchase shares prior to abnormal stock price increases, or have the firm's previous repurchases not correlated with future price movements? Is the repurchase made pursuant to a mechanical trading plan that was entered into years ago, in which case it is unlikely to be information-based? Or has the firm been repurchasing unusually heavily in recent months? The answers to these types

¹⁶⁰ See Fried, *Reducing the Profitability*, *supra* note 11, at 324.

of questions, along with information about managers' personal trading, will lead investors to adjust the terms on which they are willing to buy and sell shares. To the extent that the pre-repurchase announcement signals that the stock is likely to be underpriced, market participants can be expected to bid up the stock price. This forces the firm to trade at a less favorable price.

Of course, market participants can never know the exact motives for a particular repurchase order. As a result, the price adjustment following a pre-repurchase announcement will never precisely reflect the inside information (if any) behind a repurchase. Instead, the adjustment will capture the expected value of the inside information communicated by the announcement. Over time, however, the aggregation of all these price adjustments will substantially reduce managers' profits from bargain repurchases.

Naturally, markets may not be completely efficient at absorbing information of the type transmitted by pre-repurchase disclosure.¹⁶² Even if information is disclosed substantially in advance of a repurchase, adjustments might be somewhat smaller than in a world of perfectly efficient markets. Nevertheless, a firm with a history of well-timed buybacks is likely to face substantial adjustments when it announces future repurchase orders. Over time, these adjustments are likely to sig-

¹⁶¹ *Id.* at 323-25.

¹⁶² See Wesley S. Chan, *Stock Price Reaction to News and No-News: Drift and Reversal After Headlines*, 70 J. FIN. ECON. 223, 224 (2003) (summarizing studies suggesting that markets sometimes under-react to news). Indeed, markets currently appear to under-react to the information contained in repurchase program announcements. See Ikenberry & Vermaelen, *supra* note 51.

nificantly reduce the value that managers can expect to transfer from public shareholders through bargain repurchases.

b. Frequency of Bargain Repurchases

As we have seen, pre-repurchase disclosure will reduce managers' profits from each bargain repurchase. It will force managers indirectly to buy shares at a higher price when they conduct a bargain repurchase. And it will force managers indirectly to buy shares at a higher price in subsequent repurchases, even those that are not information-driven. The anticipation of these price adjustments will reduce managers' expected net benefit from conducting a bargain repurchase. The prospect of lower profits will, in turn, make managers more reluctant to conduct certain bargain repurchases. As a result, pre-repurchase disclosure is likely to reduce not only the profitability of bargain repurchases but also their frequency.

Consider the following example. Suppose managers owning 10% of ABC Corporation know that the stock is underpriced by 20%. They contemplate a repurchase of \$1 billion worth of shares, which would yield \$200 million of profit for non-selling shareholders if effected at the current price. Suppose also that the cash used for the repurchase could, if invested in the firm, generate \$150 million more in earnings for shareholders than if it is distributed and invested by shareholders

outside the firm. The repurchase would therefore reduce aggregate shareholder value by \$150 million.¹⁶³

In the absence of pre-repurchase disclosure, ABC's managers have an incentive to conduct the bargain repurchase even though it reduces aggregate shareholder value by \$150 million. The repurchase would cost managers their pro rata share (10%) of \$150 million in foregone earnings, but yield managers their pro rata share (10%) of \$200 million in insider trading profits. On balance, managers benefit from this bargain repurchase even though it squanders cash and reduces aggregate shareholder value.

Pre-repurchase disclosure makes managers more reluctant to undertake such a value-reducing repurchase. Pre-repurchase disclosure would boost the stock price, reducing the degree of underpricing and the amount of expected insider trading profits from this particular repurchase. Moreover, if the firm conducts this bargain repurchase, market participants are more likely to believe that future repurchases—whatever the motivation—are information-driven, and thus bid up the price at which the firm must repurchase shares in the future. Over time, managers and other non-selling shareholders will be forced to “give back” to the market some or all of the \$200 million in insider trading profits the managers hope to make with this particular bargain repurchase. If managers expect these price ad-

¹⁶³ The \$200 million of insider trading profits are zero-sum. Managers and other non-selling shareholders make \$200 million, but those selling stock to ABC lose an equivalent amount. As Part III.B explained, the \$200 million gained by managers and non-selling public shareholders comes either directly or indirectly at public shareholders' expense. From an aggregate shareholder perspective, the profits from the bargain repurchase should therefore be ignored.

justments to be large enough, they will refrain from conducting the bargain repurchase.

Suppose, for example, that aggregate current and future adjustments are expected to force managers and non-selling shareholders to give back \$100 million of the \$200 million in insider trading profits. That is, the market is expected to be only 50% efficient in “penalizing” ABC’s managers for this bargain repurchase. Given these expected adjustments, a repurchase of \$1 billion worth of stock that is actually worth \$1.2 billion will, over time, generate only \$100 million of profits for managers and other non-selling shareholders. These profits will be less than the \$150 million in profits foregone by squandering ABC’s cash on the repurchase. As a result, managers will have no incentive to engage in the bargain repurchase. In short, pre-repurchase disclosure will cause managers to abstain from certain bargain repurchases that they currently have an incentive to undertake. Managers’ profits from bargain repurchases would thus decline for two reasons: (1) expected profits per bargain repurchase, taking into account both current and future price adjustments, would drop; and (2) the number of bargain repurchases would decline.

c. False Signaling Profits

Pre-repurchase disclosure does not prevent managers from announcing that the board has authorized a repurchase program, even when they have no intention of buying back any shares. However, it reduces managers’ ability to profit from inflated-price stock sales following misleading repurchase announcements. Un-

der pre-repurchase disclosure, low-price buybacks are likely to become less common. Accordingly, the probability that a repurchase program announcement is information-motivated is likely to be lower than it is now, and such an announcement will send a weaker signal of underpricing. As a result, the market's reaction to announcements by firms that their boards have approved share repurchase programs should be less positive. This, in turn, will make it more difficult for managers to use misleading repurchase announcements to boost the stock price before selling their own shares.

As Part III.B.3 explained, there is a synergy between bargain repurchases and false signaling. When managers undertake more bargain repurchases, the stock price reaction to repurchase announcements is stronger. It is thus easier for managers to use misleading announcements to boost the stock price before unloading their own shares. Thus, it should not be surprising that reducing managers' ability to conduct bargain repurchases is also likely to reduce their ability to profit from false signaling.

To be sure, pre-repurchase disclosure would not completely eliminate managers' ability to profit from misleading repurchase announcements to boost the stock price. A repurchase announcement might cause the stock price to increase for reasons other than underpricing. For example, market participants may believe that – if the firm actually follows through on the repurchase – it will distribute excess cash that managers have been hoarding. Managers will thus still be able to boost the stock price by announcing repurchase programs they have no inten-

tion of effecting, and then unload their shares. Nevertheless, pre-repurchase disclosure is likely to substantially reduce profits from such inflated-price sales.¹⁶⁴

2. Increasing Shareholder Returns

As Parts II and III explained, managers' opportunistic use of repurchases and false repurchase announcements imposes costs on investors. Both bargain repurchases and inflated-price sales following misleading repurchase announcements systematically transfer value from public shareholders to managers. The use of bargain repurchases also adversely affects firm payout decisions, further reducing public shareholder returns.

By reducing managers' profits from bargain repurchases, pre-repurchase disclosure increases public shareholders' returns through two mechanisms. First, it reduces the amount of value diverted from public investors to managers. Second, by reducing the frequency of bargain repurchases, pre-repurchase disclosure is likely to improve firm payout policy, increasing aggregate shareholder value.

¹⁶⁴ One could reduce these profits further by requiring managers to disclose all trades in their firm's stock —both sales and purchases—in advance, as I have already proposed. See Fried (1998), *Reducing the Profitability*, *supra* note 11. This pretrading disclosure rule would reduce managers' ability to directly profit from inside information when trading in their own firm's stock. In this particular setting, pretrading disclosure would make it much harder for managers to announce repurchase program solely to unload their own shares at the higher, post-announcement price. If managers disclose after the repurchase program announcement that they intend to sell shares, market participants would infer that the stock is likely to be

We have seen that pre-repurchase disclosure curbs managers' profits in three ways: by (1) reducing managers' expected profits from each bargain repurchase through current and future price adjustments; (2) lowering the frequency of such repurchases; and (3) diminishing managers' profits from false signaling. To the extent managers profit less from transactions in which the managers or their firms trade directly with public investors, public investors directly benefit. To the extent managers' profits are made in the first instance at market makers' expense, the reduction in managers' profits will enable market makers to lower their bid-ask spread, indirectly benefiting public investors. Pre-repurchase disclosure thus benefits shareholders by reducing the extent of the value transfer to managers.

More importantly, pre-repurchase disclosure improves payout policy, increasing aggregate shareholder value. Because pre-repurchase disclosure reduces the profitability of bargain repurchases, managers will have less incentive to inefficiently hoard cash to give themselves the option of conducting bargain repurchases in the future. Managers will also have less incentive to engage in cash-squandering bargain repurchases when they know that the current and future adjustments caused by pre-repurchase disclosure will substantially reduce their insider trading profits from the bargain aspect of the repurchase. Managers will also have less incentive to use repurchases to distribute cash in situations where dividends are more efficient for shareholders. As pre-repurchase disclosure mitigated these distortions, there would be more value available to shareholders as a group,

overpriced, or at least not underpriced, and bid the price down, forcing them to sell at a lower price and reducing their false-signaling profits.

including managers. And, as will now explain, pre-repurchase disclosure can achieve these benefits at low cost.

C. Costs

This Part considers three possible costs to pre-repurchase disclosure: that such a rule might (1) reduce the usefulness of repurchases; (2) cause managers to use dividends even when repurchases are more efficient, and (3) provide managers with a new false signaling mechanism for selling their own shares at inflated prices. None of these costs, I show, is likely to be significant.

1. Impairing Benefits of Repurchases

Pre-repurchase disclosure will not interfere with any of the potential benefits of repurchases. The rule would not affect the potential tax advantages of repurchases over dividends. The mechanical costs associated with pre-repurchase disclosure – public dissemination of buyback orders and electronic transmission of the information to the SEC -- would be trivial. Thus, pre-repurchase disclosure does not hinder the use of buybacks when a repurchase would distribute cash more tax-efficiently or cost-effectively than a dividend. Similarly, pre-repurchase disclosure will not affect firms' ability to use repurchases to provide shares for employee stock option programs. Finally, pre-repurchase disclosure will not impede the use

of repurchases to boost liquidity by, for example, stimulating trading and lowering market maker's inventory holding costs.

2. Use of Inefficient Dividends

Although it should be clear that pre-repurchase disclosure would not impair any of the potential benefits attributed to repurchases, such as their ability to distribute excess cash tax-efficiently, one might worry that pre-repurchase disclosure would cause managers to use dividends when share repurchases would be more efficient. In particular, the pre-repurchase disclosure required to effect a buyback might boost the stock price before the firm's broker begins executing the buy order, causing the firm to acquire shares for more than the pre-disclosure price. The anticipated price adjustment could, in turn, discourage managers from distributing cash through repurchases even when repurchases are more efficient for shareholders than dividends. Instead, managers might distribute the cash through a less efficient dividend.

However, there may not be many circumstances in which repurchases are more efficient for shareholders than dividends. Because many shares are held in tax-free or tax-deferred accounts, dividends and repurchases are often taxed at the identical rate, and even outside of these accounts their tax treatment is, essentially, the same. And for large payouts, dividends are likely to involve lower transaction costs. Thus, repurchases are likely to be more efficient only when a firm pays out small amounts of cash at a time.

Moreover, in those situations where repurchases are likely to be more efficient – small payouts – managers are unlikely to be discouraged from distributing cash through repurchases. Small buybacks cannot transfer much value to managers. As a result, market participants will understand that these repurchases are unlikely to be motivated by underpricing. Thus, they will not bid up the price and force the firm to buy the shares at a higher price.

Nevertheless, let us assume for argument's sake that, in some cases, repurchases are more efficient for distributing large amounts of cash. Even in this situation, pre-repurchase disclosure is unlikely to prevent managers from efficiently distributing cash through a repurchase. To begin, consider firms that, prior to the introduction of a pre-repurchase disclosure rule, tended to repurchase shares at their actual value. That is, the firm's repurchases had, on average, not preceded large run-ups in the stock price. Market participants will bid up the stock price following a pre-repurchase disclosure only if they have reason to believe, based on the firm's repurchase history and other factors, that the buy back is information-driven. There is little reason to believe that, with respect to firms that have tended to buy shares at their actual value, the market will adjust the price in response to the disclosure of even a large repurchase order.

Next consider firms that, prior to the introduction of pre-repurchase rule, had a history of conducting bargain repurchases. If managers do not take steps to signal that the contemplated repurchase is not information-driven, they are likely to face a significant adjustment when the repurchase order is announced. However, managers can easily avoid – or at least reduce the size of – the market's adjustment by committing to repurchase a certain number or dollar amount of shares every

period, regardless of the stock price. On average, such a program will result in repurchases of shares at a “fair” price and, over time, not redistribute value among shareholders. The market will infer from such a commitment that the managers are unlikely to be conducting a bargain repurchase and, accordingly, adjust the price less, if at all, in response to individual order announcements.¹⁶⁵ As a result, managers who wish to distribute cash through a repurchase rather than through a dividend will not be deterred from doing so.

In sum, managers are likely to face price adjustments when they announce a repurchase order only to the extent that market participants believe, based on the managers’ repurchase history and other factors, including the size and structure of the order, that the buyback is information motivated. To the extent that managers have not used repurchases to indirectly buy stock for a low price, use repurchases to buy back small amounts of stock, or commit to repurchase according to a pre-specified schedule, market participants will not respond to buyback orders by increasing the stock price. Thus, managers wishing to use repurchases for shareholder-serving purposes will not be discouraged from doing so.

¹⁶⁵ In 2000, the SEC promulgated Rule 10b5-1, which creates a safe harbor from Rule 10b-5 liability for a repurchasing firm that assigns repurchase decisions to a third party lacking access to material inside information. See 17 C.F.R. § 240.10b5-1 (2004). The safe harbor also extends to trades conducted according to a pre-arranged plan, a binding contract, or irrevocable instructions that were not created at a time when the firm’s management had material nonpublic information. A firm acquiring stock under a Rule 10-b5-1 repurchase plan is unlikely to face much, if any, adjustment when individual purchase orders made pursuant to the plan are announced.

3. Strategic Pre-Repurchase Announcements

We saw that managers not intending to repurchase a single share may currently have an incentive to announce a share repurchase program solely to boost the stock price before selling their own shares. These announcements tend to boost the stock price because many repurchases are information-driven. By reducing the frequency of bargain repurchases, pre-repurchase disclosure will reduce the signaling strength of buyback program announcements. In turn, managers will find it more difficult to inflate the stock price by announcing repurchase programs that they have no intention to execute.

However, one might worry that, under a pre-repurchase disclosure regime, managers may be tempted to conduct repurchases in the hope that the required pre-repurchase disclosure boosts the stock price, allowing them to sell their own shares at a price higher than the stock's actual value. There is, however, an important difference between current non-binding repurchase program announcements and the pre-repurchase disclosure rule I propose: pre-repurchase disclosure would be followed by an actual repurchase. Thus, an inflated-price repurchase will impose a cost on managers to the extent that they continue to own stock in the company. In effect, managers will buy sellers' shares at a price above their actual value. Managers bear no such cost when they use a misleading repurchase program announcement to boost stock price. Thus, this manipulation strategy would be profitable only if the managers sell more shares than they indirectly buy through the repurchase.

In any event, the strategic use of repurchase orders to boost the stock price could easily be prevented. In particular, managers of repurchasing firms could be required to disclose their own intended trades, or at least their sales, in advance – a rule that I have suggested be applied to managers whenever they trade in their own firms' shares.¹⁶⁶ Pretrading disclosure of repurchasing managers' own trades would reveal to the market the net direction of managers' direct and indirect trades, allowing the market to draw appropriate inferences about the actual value of stock. This would eliminate managers' ability to artificially boost the stock price by announcing repurchase orders.

¹⁶⁶ See Fried (1998), *supra* note x.

Conclusion

Public companies in the United States and elsewhere are increasingly using open market repurchases, rather than dividends, to distribute cash to shareholders. This trend has generally been seen as desirable for shareholders. Stock buybacks may enable firms to distribute cash more tax-efficiently and cost-effectively than dividends. Repurchases can also be used to acquire shares for employee stock option plans and, under certain conditions, to increase liquidity.

This Article has shown, however, that managers also use repurchases to enrich themselves at public investors' expense. Managers aware their stock is underpriced frequently conduct repurchases to indirectly buy shares for themselves at a bargain price. And managers announce repurchases they have no intention of conducting to boost the stock price, enabling them to unload their own shares at a higher price.

The use of repurchases for informed trading and false signaling imposes substantial costs on public investors. Managers' profits from the opportunistic use of repurchases and misleading repurchase announcement may be as high as several billion dollars annually – all of which come, directly or indirectly, at public shareholders' expense. Moreover, tying the firm's payout policy to the stock price can distort managers' payout and investment decisions, shrinking the size of the corporate pie and further diminishing public investors' returns. Managers' ability to conduct bargain repurchases can lead to cash hoarding in some cases, cash squan-

dering in other cases, and the use of repurchases when dividends would be a more efficient distribution mechanism.

The Article has also proposed a new approach to regulating repurchases that would impair managers' ability to use buybacks for informed trading and false signaling: requiring a repurchasing firm to disclose the exact details of its buy orders before its broker executes them. Under a pre-repurchase disclosure regime, market participants will use disclosed repurchase orders to update their assessment of the stock's actual value, taking into account the firm's repurchase history, its financial condition, and managers' contemporaneous trading. If the disclosure signals that the stock is likely to be underpriced, market participants will bid up the price of the stock before the repurchase order is executed, reducing managers' profits from the bargain repurchase. Over time, these price adjustments will reduce managers' profits from any given bargain repurchase and diminish the number of such repurchases. Managers' ability to use misleading repurchase announcements to sell stock at inflated prices will, in turn, decline. Public shareholders' returns will increase as managers divert less value and the firm's payout and investment decisions improve.

The costs of pre-repurchase disclosure will be minimal. Requiring firms to disclose their repurchase orders in advance will not undermine any of the potential benefits of repurchases, such as their ability to distribute cash more tax-efficiently than dividends or acquire stock for employee option programs. Nor will it cause managers to use dividends to distribute cash when repurchases would be more efficient. Regulators wishing to protect public investors and improve corporate pay-

out and investment decisions should therefore impose a pre-repurchase disclosure requirement on publicly traded companies.